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The Chat

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OUR COVER—The Black-capped Petrels flying across the cover were drawn by Renaldo Kuhler, scientific illustrator at the N.C. State Museum of Natural History. A graduate of the University of Colorado, Renaldo worked in the preparation of museum exhibits until he came to North Carolina 8 years ago. Having taught himself the techniques of biological illustration, he is currently working on a book about fish.

OCCURRENCE OF THE BLACK-CAPPED PETREL IN NORTH CAROLINA WATERS

DAVID S. LEE

The Black-capped Petrel (*Pterodroma hasitata*) is the only species of gadfly petrel known to occur in the northwestern Atlantic with any regularity. Robbins et al. (1966) describe it as "a casual summer visitor to eastern North America during storms." The AOU Check-list (1975) lists it as rare and occurring north of Florida only accidentally. Therefore, it is interesting to report that this species appears to be a regular, though uncommon, offshore summer and early fall resident of North Carolina waters.

Six independent sight reports of 15 individuals have been recorded since 1972. Known dates of occurrence range from 18 May to 22 October. This period corresponds closely to the known seasonal distribution of other tropical species that regularly inhabit North Carolina's offshore waters during the summer, i.e. Audubon's Shearwater (*Puffinus lherminieri*), Bridled Tern (*Sterna anaethetus*), and Sooty Tern (*S. fuscata*) (Lee in press). The winter breeding period of the Black-capped Petrel is thought to run from 1 November to mid-May (Wingate 1964).

Reported observations and sightings known to me are as follows (* = observed by author): 22 October 1972, 50 miles SE Morehead City, 1 (Teulings 1973); 21 October 1973, 30 miles SSE Morehead City, 1 subadult (DuMont and DuMont 1974); 4 August 1974, off Hatteras, 6 (Teulings 1975a); 18 May 1975, in Gulf Stream off Hatteras, 2 (Teulings 1975b); 12 October 1975*, 21 miles off Cape Hatteras, three different sightings all assumed to be the same bird (Teulings 1976); 6 September 1976*, off Hatteras, 2 (P. DuMont and others); 14 October 1976*, 28 and 30 miles SSE of Oregon Inlet, 2 (NCSM field party). All sightings were confirmed by more than one observer.

Although precise locality data are not available for several of the sightings, all records are from 20-35 miles offshore. Apparently this species does not occur with any regularity inshore, as do many other pelagic birds. With the exception of the 14 October 1976 sightings, all observations have been made along or near the inner edge of the Gulf Stream. The lack of unusual weather systems prior to these sightings suggest that the individuals encountered were not storm waifs. Periods and locations of observations are so sporadic that no valid generalizations concerning relative abundance can be made at this time. The predominance of sightings off Hatteras probably is a result of the frequency with which Hatteras is used as a point of departure for pelagic bird trips. A 7 September 1975 Virginia record (Scott 1976) of a Black-capped Petrel also should be noted.

Black-capped Petrels were not reported from North Carolina waters until 1972. Apparently this was due to the infrequency of offshore trips prior to this time and the limited number of trained observers. Because this species can be confused with both Audubon's and Greater Shearwaters (*P. gravis*) and because Black-capped Petrels were not expected to occur regularly in U.S. waters, it is understandable that these birds were overlooked for many years. Additionally, they were greatly depleted at their known breeding sites during the 1800s (Bent 1922; Murphy 1936) and were at various times reported to be extinct. Although such reports were obviously premature, it is likely that this species is more common now than it has been in the past. Wingate (1964) reported the discovery and status of a breeding population on Hispaniola, this being the only known extant breeding colony.

When seen in good light and at close range, this species is readily distinguished from the smaller Audubon's and larger Greater Shearwaters. The extensive white areas on the upper tail coverts, neck, and underparts are diagnostic and contrast markedly with the black cap, tail, and back. The flight pattern is unlike that of the storm-petrels and normally more like that of the shearwaters. The following are excerpts from my

field notes.

"On 12 Oct. 1975 a group of 40 people observed a black-capped petrel on three separate occasions between 10:00 and 11:30 AM. At one point the bird was less than a 100 meters from the boat. It was feeding along the inner edge of the Gulf Stream 26 miles from shore. The white neck and rump and light ventral surface of the body and wings were conspicuous as the bird maneuvered above the waves. In size and build it resembled a large shearwater. It seemed to keep its body and wings at approximately right angles to the surface of the water and constantly shifted position so that at one instant we were seeing its ventral side and the next its dorsal side. First one wing and then the other pointed down, creating an effect of dark and light flashing as the different surfaces were exposed to view. The pattern of flight was unlike any of the shearwaters or storm petrels, and the contrast of light and dark as the bird soared was striking." On 6 Sept. and 14 Oct. 1976 the birds were observed within 20-25 meters of the boat. On these occasions all field marks were noted, but the pattern of flight did not appear to be as erratic. All four birds were "soaring in wide, sweeping arcs; these arcs were wider and more rolling" than those of Cory's (*P. diomedea*) or Greater Shearwaters. On only one occasion was a bird observed flapping its wings. This individual apparently was flushed while resting on the surface and "When seen from a head-on position it resembled an Audubon's shearwater because of its dark and light coloration and its short, rapid wing beat. When the bird was parallel to the boat it banked, and the dorsal markings became visible. It then soared . . . until it disappeared on the horizon (6 Sept. 1976)." Over 45 bird watchers were present, and most of them had a good view of this bird. One of the two Black-capped Petrels seen on 14 October 1976 was apparently resting on the surface in a mixed flock of Cory's and Greater Shearwaters, but it was not spotted until after the birds has been flushed by the approaching boat. Several inexperienced observers later commented on the striking difference between this bird and the shearwaters. This individual was watched from a distance of 15 meters. A second individual seen on the same date was not well studied.

In retrospect it is likely that the differences in distance were partly responsible for my two descriptions of flight pattern. When viewed from a distance the sweeping arcs would be difficult to detect and only the "flashing" of the ventral and dorsal surfaces would be apparent as the bird rolled from one side of the arc to the other.

It is my opinion that the Black-capped Petrel is a regular summer and early fall resident in offshore waters of North Carolina. Future reports are needed to better document its season of occurrence and relative abundance, but there is certainly sufficient evidence of its presence to warrant its placement on the official state list of North Carolina birds.

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North Carolina State Museum of Natural History, Raleigh, N.C., 8 November 1976.

BREEDING LOCALITIES OF RED-WINGED BLACKBIRDS WINTERING IN NORTH AND SOUTH CAROLINA

PAUL A. STEWART

In an earlier paper (Stewart 1975) I reported the results of an analysis of banding and recovery records showing breeding localities of Common Grackles (*Quiscalus quiscula*) wintering in North and South Carolina. In the present paper I am making a similar analysis for the Red-winged Blackbird (*Agelaius phoeniceus*). The present paper is based on birds banded in South Carolina and on recoveries in North and South Carolina during the winter of birds earlier banded on their more northern nesting grounds. In preparing this paper I had information on the total numbers of Red-winged Blackbirds banded in the various states and provinces in the breeding range of the birds, an advantage I lacked in preparation of the earlier paper. The data used involved birds banded during the period 1950 through 1970 and recovered during the period 1950 until 20 October 1972.

METHODS

As in the earlier paper banding and recovery records were selected to represent nesting and wintering localities. In the present paper winter was defined as the period December through February, and the time on the nesting grounds was defined as the period May through September. Thus, birds banded or recovered during March, April, October, and November were eliminated from the analysis on the assumption that the reported contacts might have been made when the birds were on their northward or southward migrations.

With widely different numbers of birds banded, the probability of banded birds coming from different states and provinces varied widely; hence, the numbers of birds banded per recovery were determined. With use of recovery rates, percentages of the populations going from the various states and provinces to the Carolinas were calculated. The recovery rate of birds banded in South Carolina was used for a base, the banded birds trapped and released being eliminated from the count. Since recoveries were used only from three months of the year, when the birds were on their wintering grounds, one-fourth of the base rate was used as an expected recovery rate. To calculate the percentage of the population going to the Carolinas from a state or province, the number recovered was divided by the number banded times 100 to get the recovery rate, and the derived recovery rate was divided by the expected recovery rate times 100. To calculate the percentage of the winter population in the Carolinas coming from the different states and provinces, the recovery rate in the Carolinas was divided by the total recovery rate from all of the states and provinces times 100.

Although bird distribution is often considered relative to political boundaries, it is more properly associated with geographic regions; hence, the breeding grounds of Red-winged Blackbirds wintering in the Carolinas was divided into regions. Regions of states and provinces were indicated by closely similar recovery rates from adjacent states and provinces. Also, few birds were banded in some states and provinces, resulting in spotty sampling and indicating a need for grouping the states and provinces.

RESULTS

A total of 271,595 Red-winged Blackbirds were banded to yield 174 recoveries in North and South Carolina; thus, 1,561 birds were banded for each one recovered, or 0.06 percent of the 271,595 banded birds were recovered during the winter in North and South Carolina. Two additional birds were recovered in the Carolinas after being banded in Florida during the fall and winter.

In South Carolina 5,280 birds were banded, and 46 of these were recovered, showing a recovery rate of 0.9 percent. Thus, considering the fact that the time when the

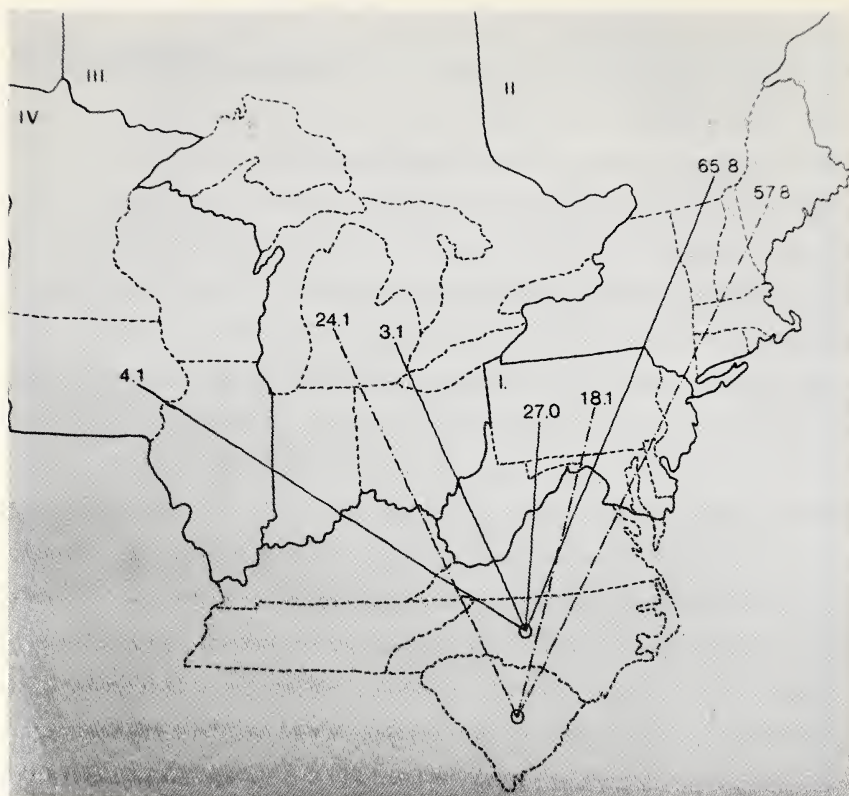


Fig. 1. Percentages of winter populations of Red-winged Blackbirds in North and South Carolina coming from different nesting regions. Regions are numbered with Roman numerals.

birds are on their wintering grounds is one-fourth of the total time they are susceptible to recovery, the recovery rate in North and South Carolina would be expected to be 0.225 percent if all of the 271,595 banded birds spent the winter in the Carolinas. The recovery rate of birds coming to North and South Carolina to spend the winter was 0.06 percent, indicating that about 26.7 percent of the 271,595 banded birds came to North and South Carolina to spend the winter or that 26.7 percent of the Red-winged Blackbirds on nesting grounds in the northern part of the eastern United States come to the Carolinas to spend the winter.

Figure 1 shows the percentages of winter populations of Red-winged Blackbirds coming to North and South Carolina from different parts of their nesting grounds. Of the winter populations in both Carolinas, 22.6, 61.8, 13.6, and 2.1 percent come from Regions I, II, III and IV, respectively. With the rate of recovery during the winter in the Carolinas of birds on nesting grounds in Region I being only slightly more than one-third of that of birds on nesting grounds in Region II, it is indicated that more Red-winged Blackbirds remain during the winter on their nesting grounds in Region I than in the more northern Region II, or perhaps migrate a shorter distance southward. Nearly eight times more Red-winged Blackbirds come to South Carolina than to North Carolina from Region III. With 3.1 percent of the winter population in North Carolina from

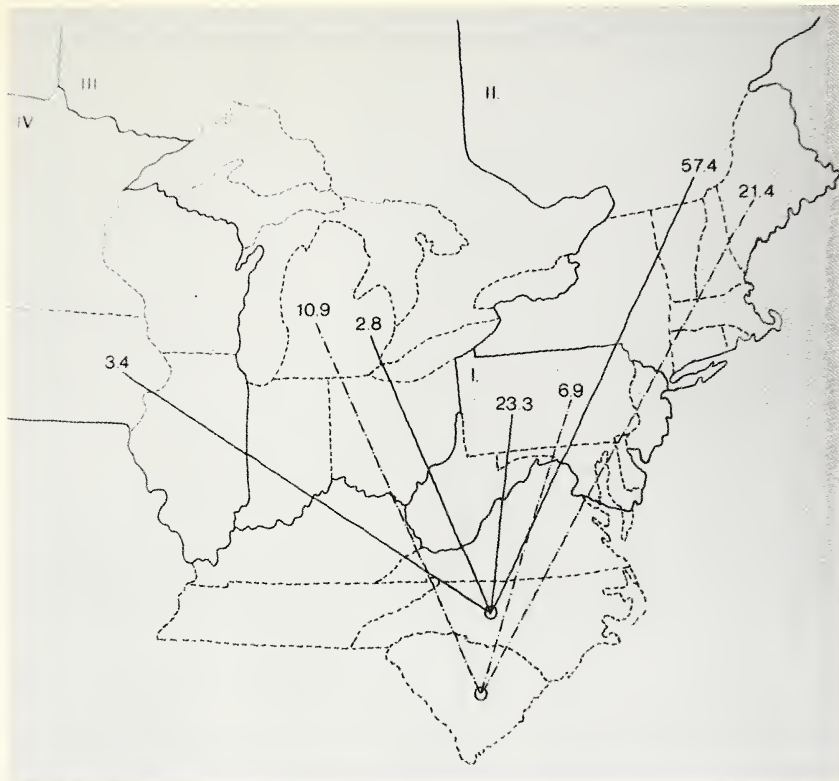


Fig. 2. Percentages of populations of Red-winged Blackbirds going from different regions on their nesting grounds to spend the winter in North and South Carolina. Regions are numbered with Roman numerals. The difference between the numbers shown in the various regions and 100 percent is represented by birds wintering elsewhere than in North and South Carolina.

Region III and 4.1 percent from Region IV, roughly the same percentages come to North Carolina from these two regions.

Figure 2 shows the percentages of populations of Red-winged Blackbirds leaving their nesting grounds in the different regions to go to North and South Carolina to spend the winter. Of Red-winged Blackbirds going from their nesting grounds in the different regions to spend the winter in North and South Carolina, 30.2, 78.8, 13.7, and 3.4 percent went from Regions I, II, III and IV, respectively. With 78.8 percent of the Red-winged Blackbirds going from their nesting grounds in Region II to spend the winter in North and South Carolina, the Carolinas are the major wintering grounds for Red-winged Blackbirds from this region.

A total of 5,280 Red-winged Blackbirds were banded in South Carolina, but most of those recovered were banded during the migration season or winter. All of those banded during the winter were recovered during the migration season or to the northward during the nesting season. No recoveries are available from the 5,280 Red-winged Blackbirds banded in South Carolina to show whether South Carolina birds migrate southward after the nesting season or remain in the state throughout the year. Like-

wise, 302 Red-winged Blackbirds were banded in North Carolina without yielding a single recovery representing both the nesting and winter season. Also, 1,835 Red-winged Blackbirds were banded in Virginia, with only one recovered in the Carolinas. This one bird was banded during May in Virginia and recovered the following August in South Carolina, not indicating the whereabouts of its wintering grounds.

The only available evidence of migration of Red-winged Blackbirds nesting south of Maryland consists of two birds banded in Florida during February and November and later recovered in North and South Carolina during August and April, respectively. While only one of these two birds was taken during the time I have defined for the birds to be on their nesting grounds, they both indicate migratory movement south of the Carolinas. Too few recoveries are available of Red-winged Blackbirds banded during the nesting season in North Carolina, South Carolina, and Virginia and during the winter in Florida and Georgia to support a definitive statement on the migratory status of Red-winged Blackbirds nesting south of Maryland and West Virginia. Thus, new information on the migratory status of Red-winged Blackbirds nesting south of Maryland and West Virginia might lower the figures I have given for percentages of the winter populations coming to the Carolinas from the different regions; however, the relative percentages coming from the different regions should remain unchanged.

DISCUSSION

To indicate percentages of winter populations of blackbirds coming from different parts of their nesting ranges, Meanley (1971, p. 15) used percentages of banded birds coming to several south-central states without making adjustments for different numbers banded in different parts of the nesting ranges. Obviously the number of recoveries can be expected to increase with increasing numbers of banded birds available for recovery. Thus, 18 of the 68 (26.5 percent) recoveries taken in South Carolina were of birds banded in Ohio; whereas, after adjustment was made for the number banded in Ohio, 7.4 percent of the winter population in South Carolina was found to come from Ohio. Of the 271,595 Red-winged Blackbirds banded on their nesting grounds, 94,771 (34.9 percent) were banded in Ohio.

In this paper I have used recovery rates of banded Red-winged Blackbirds as an indication of proportions of populations of these birds on different parts of their nesting range going to North and South Carolina and as an indication of the proportions of winter populations in North and South Carolina coming from different parts of their nesting grounds. This use involves the requirement that the birds be similarly exposed to the probability of recovery in different parts of their range at different seasons of the year. Thus, such use clearly could not appropriately be made of banding recoveries of some species, notably ducks, which are recovered chiefly during the hunting season. While the requirement that the birds be similarly exposed to the probability of recovery in different parts of their range at different seasons of the year may not have been fully met in the banding data for Red-winged Blackbirds, the requirement seems to exist here more as a basis for difference of opinion than to support a decision against such use of the data.

Although numbers of birds banded on different parts of their nesting grounds must be taken into account when numbers of recoveries are used to determine percentages of a winter population coming from different parts of their nesting grounds, recoveries from different parts of the nesting grounds of birds banded on their wintering grounds can be used without adjustment for the number banded. It can simply be assumed that the sample of winter-banded recoveries shows the nesting distribution of the winter population. Thus, in use of banding recoveries to determine proportions of a winter population of birds coming from different parts of their nesting range, either adjustments should be made for different numbers banded in different parts of the nesting range or recoveries of birds banded on their wintering grounds should be used.

Meanley (1971, p. 12) estimated the average recovery rate of blackbirds to be about 1.5 percent, presumably including birds trapped and released at the original

banding stations two or more migration seasons after banding. Because such contacts at the original banding stations introduce a bias to which only part of the sample is exposed, I have sought a base for an expected recovery rate not exposed to this bias. The recovery rate which I used, based on birds banded in South Carolina, involved no birds trapped after banding at the original banding station.

SUMMARY

To determine the breeding localities of Red-winged Blackbirds wintering in North and South Carolina, an analysis was made of the recoveries of 174 banded birds, resulting from banding of 271,595 birds. It was determined that 26.7 percent of the Red-winged Blackbirds nesting in the northern part of the eastern United States spend the winter in North and South Carolina. Red-winged Blackbirds wintering in North and South Carolina come largely from the area north and northeast of Maryland. Of Red-winged Blackbirds coming to the Carolinas from the area west of Pennsylvania and Quebec, substantially more come to South Carolina than to North Carolina. More than three-fourths of the Red-winged Blackbirds on nesting grounds north of Pennsylvania spend the winter in the Carolinas.

ACKNOWLEDGMENTS

I am grateful to Jay M. Sheppard for making available for my use from the files of the U.S. Fish and Wildlife Service the banding data which were used in this report. I am grateful also to David E. Stewart for aiding with the calculations and for preparing the maps. A word of acknowledgment is also due Maurice L. Giltz and Harold E. Burt for the contribution they have made toward analysis of the movement of Red-winged Blackbirds in their banding of most of the large number of these birds banded in Ohio.

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203 Mooreland Drive, Oxford, N.C. 27565, 25 April 1976.



Roundtable

... with Louis C. Fink

Artists at Highlands

Lucien Harris III is a wildlife artist raised in Georgia who has recently moved from Orlando, Florida, to Highlands. His wife, Mary Jane, creates pictures in fabric, and both of them have exhibited widely. This column looks forward to seeing their work at a CBC meeting.

Baking Soda Cards Available Again

Church and Dwight Co. has reprinted some of the baking-soda bird cards, reproduced from the paintings of Louis Agassiz Fuertes. Thirty birds of prey in full color on 3½ by 2½ inch cards are available for 35 cents and an Arm and Hammer box top. Send to Dept. B., Church and Dwight Co., Inc., Two Penn Plaza, New York, N.Y. 10001.

Four-state Meeting

Marene Snow of Dalton, Ga., has suggested a joint meeting of the Georgia Ornithological Society, the Tennessee Ornithological Society and the Carolina Bird Club at Fontana in the spring of 1978. The idea was considered favorably at the TOC meeting.

Identifying Ducks

Fish and Wildlife Service, U.S. Dept. of the Interior, has published an attractive folder in color for the benefit of hunters. It describes and pictures 18 species of ducks, and includes a timely warning about killing ducks that have been reduced in numbers.

Spreading the Gospel

Down on the coastal plain, one member of CBC is making six talks on birds this winter. Some are to school classes; others are to garden clubs, who may make a donation to CBC. Other bird societies in the country have found this a good way to spread the gospel of conservation, and garner a little for the treasury at the same time.

Prize-winner

First prize in *American Birds* color print contest has been won by Edward E. Burroughs, compiler of the Rockingham County, N.C., Christmas Bird Count. He took his camera along, photographed an "hypnotic" Screech Owl, and saw his photo reproduced on the front cover of the August 1976 issue of the magazine. Ed recently decided to move to Alaska. His many friends in CBC wish him much happiness and good birding in his new home state.

Thirty-third Supplement to AOU Check-list

The Thirty-third Supplement to the AOU Check-list was published in October 1976 (Auk 93:875-879). Most of the newly adopted changes in nomenclature involve only the scientific names and reflect current thinking regarding the relationships of the

species to one another. Changes listed below are regarded as being of particular interest to the amateur bird student.

The Black Brant is now a subspecies of the Brant. The species name is Brant, but Black Brant remains available for *Branta bernicla nigricans*. North Carolina loses one species.

The English name for the Fulvous Tree Duck is now Fulvous Whistling-Duck. A corresponding change has been made in the common names of the other members of the subfamily Dendrocygninae.

The spelling of the scientific name for the Mississippi Kite has been corrected, *Ictinia mississippiensis* reverting to *I. mississippiensis*.

Campephilus bairdii of Cuba is now considered conspecific with the Ivory-billed Woodpecker. The birds in the southeastern United States, if any survive, are *C. principalis principalis* while those of Cuba, if any survive, are *C.p. bairdii*.

BOOK REVIEWS

Checklist of the World's Birds

Edward S. Gruson. 1976. Quadrangle/The New York Times Book Co., 10 E. 53rd Street, New York, N.Y. 10022. 212 p. Indexed. \$10.95

The globe-trotting birder often has trouble knowing what to call a bird even after he has matched the field marks to the best available description or illustration of the species. Authors often disagree on the scientific names as well as common ones, and for many birds there are no generally accepted English common names. Gruson's checklist attempts to remedy the situation by providing scientific and English common names for each species. The two names are followed by numbers to indicated the references used by the author and by letters to indicate the faunal regions where the species can be found. The faunal regions are illustrated on a world map printed on the endpapers. Although professional ornithologists may find much to criticize in Gruson's checklist, the book probably will satisfy most birders who want to record the species they find on trips abroad. Several similar works are available at prices ranging from \$6 to \$110. (Auk 92:818-830, 93:868-869). A careful reading of the various reviews should help you decide which world checklist suits your taste and pocketbook.—EFP

Birdwatcher's Guide to Wildlife Sanctuaries

Jessie Kitching. 1976. Arco Publishing Company, Inc. 233 p. Illus. \$8.95

The dust cover says that "this book fills a long-felt need" and therein lies the disappointment. The traveler does, indeed, need a guide which tells him where to find birds. But this book includes only 295 sanctuaries in all of the United States, Canada and the Virgin Islands. North Carolina is dismissed with two references; South Carolina with four. Much more information is already available in *Wild Sanctuaries* by Robert Murphy (E.P. Dutton & Co., Inc., N.Y., 1968) and *National Park Guide* (Rand McNally and Company, Chicago, 1970).

The information in *Birdwatcher's Guide* is sketchy. As one example, the author tells us that Cape Hatteras National Seashore has an undated checklist and that ducks and geese are common.

This reviewer spent a full day at Laguna Atascosa in Texas, and could have enjoyed a week. All the author tells us is that Laguna Atascosa is 60 miles to the east of Santa Ana and is "interesting." —LOUIS C. FINK, Apt. L-6, Tau Valley Estates, Rocky Mount, N.C. 27801.

A Guide to the Birds of Panama

R.S. Ridgely. 1976. Princeton University Press, Princeton, N.J. 394 p. Illustrated by John A. Gwynne Jr., 32 color plates, black-and-white illustrations throughout. Bibliography. Index \$15.00

If you want to beef up your life list in a hurry, I suggest you take a week off and head for Panama. And Ridgely's *Birds of Panama* is the volume to take with you. At this avian crossroads, more than 880 species have been recorded. The Canal Zone alone—an area 10 miles wide and 50 miles long—has in excess of 500 species!

It took me over a year of frustration to begin to come to grips with this astounding avifauna. How I longed for a compact field guide, loaded with accurate color plates, with details on range, abundance, field marks, confusing species, voice and habitat! There simply was no such thing. Now all of that is changed. Bob Ridgely—the most acute bird watcher I have met—has turned his field studies, long hours of museum and library work, and the enthusiastic collaboration of Panama amateur birders and ornithological greats such as Alex Wetmore and Gene Eisenmann into just such a volume. Not the least of Ridgely's contributions was his "discovery" of John Gwynne as illustrator. The plates are marvelous.

One of the most useful parts of this useful field guide is a full section on "Finding Birds in Panama." With this section, any birder can rent a car at the airport or hotel and be out checking off life-listers in some of the best birding spots in the world by lunch time. Though Ridgely gives direction for the whole Republic, the novice tropical bird-watcher has only to confine himself to the Canal Zone for the most rewarding and convenient birding. Indeed, the only decent tropical jungle left that anyone can get to is within the Canal Zone. Virtually all readily accessible areas of the Republic have been denuded and reduced to cow pastures and scrub. The great exception to this is the highlands of western Panama around Cerro Punta, where the specialty is the unbelievably beautiful Resplendent Quetzal. The Panama Audubon Society, Box 2026, Balboa, Canal Zone, will be pleased to get you started on your Panama adventure.

One last note: this volume should be very useful throughout Central America and in much of northern South America. With Peterson and Chalif's *A Field Guide to Mexican Birds*, Davis's *A Field Guide to the Birds of Mexico and Central America*, and the Ridgely volume, birding south of the border to Panama can now be a thing of joy instead of frustration for the beginning tropical birder.—HORACE LOFTIN.

[Dr. Loftin, a native Tar Heel, recently returned to North Carolina from Panama where he served as director of the Center for Tropical Studies. He is now working in the field of natural resources policy and planning for state government.—Ed.]

Ornithology From Aristotle to the Present

Erwin Stresemann. 1975. Harvard University Press, Cambridge, Mass., and London, England. 432 p. Translated from the 1951 German edition by Hans J. and Cathleen Epstein. Foreword and Epilogue on American Ornithology by Ernst Mayr. Index. \$20.00

This scholarly book may seem a bit difficult for the average amateur bird student, but those who persist will be richly rewarded for the effort of reading it. The author successfully portrays the hardships, disappointments, controversies, rivalries, triumphs, and just plain good fortune that shaped the lives of many men who helped lay the foundations of modern biology. Of all the fascinating people Stresemann mentions, the one who made the greatest impression upon me personally is Christian Ludwig Brehm (1787-1864). An ingenious bird-catcher, Pastor Brehm viewed the natural sciences from a religious standpoint and encouraged many gifted young men to pursue the study of birds. It was the pastor of Renthendorf who, "more than anyone else, understood how to attract a young and energetic person to the study of nature, and to

(Continued on Page 17)

General Field Notes

JAMES F. PARNELL, Department Editor

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Three Recent Sight Records of Bachman's Warbler

JAY SHULER

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31 August 1976

Of the 37 known nests of Bachman's Warbler (*Vermivora bachmanii*), 32 were found by Arthur T. Wayne (field notes and collection books, Charleston Museum) between 1906 and 1919 in I'On Swamp about 20 miles NE of Charleston, S.C. The species was observed there again from 1948 through 1953 (E.B. Chamberlain, *Chat* 22:73-74, 77). Three recent sight records indicate that it may still frequent the area.

John Lamey, of Toronto, Canada, visited Mayrant's Backwater in I'On Swamp on the morning of 19 March 1974. At the edge of a cypress swamp he "heard an unfamiliar buzzy, trilling song." Squeeking brought the bird into view and "almost immediately the singing stopped and I [Lamey] became aware of a small yellowish warbler moving rather deliberately in the cover just along the edge of the path at 8-10 feet up from the ground level. The black throat and cap combined with the yellow cheeks and face as well as yellow underparts told me I was dealing with a male Bachman's Warbler."

T.A. Beckett III and Stan Langston were playing recorded songs of various warblers at the end of Clayfield Road in the Francis Marion National Forest portion of I'On Swamp on 20 April 1975. Light intermittent showers were falling. "We had been getting an excellent response to the tape and had been at the site for perhaps an hour when I saw a bird hovering on the underside of a leaf trying to remove what appeared to be a small worm. When it succeeded it lit on the limb and I immediately saw that it was an adult male Bachman's Warbler—had 8 power binoculars."

Without naming the bird, Beckett pointed it out to Langston who also immediately identified it as Bachman's Warbler. Both Langston and Beckett were certain of the identification, and state they never felt or expressed any doubts about it. Beckett has had extensive field experience with Bachman's Warbler, perhaps more than any other living ornithologist.

Andrew Uterhart and his wife Marion were with me [Shuler] on I'On Swamp Road on 29 March 1976. I left them at the south bridge in order to check another area. When we met again, they told me that they had seen a Bachman's Warbler. Dr. Uterhart presented an account of the observation to the Board of Directors of the Kentucky Ornithological Society. It was forwarded to me by Burt L. Monroe Jr. in a letter dated 7 May 1976. The letter also vouched for Dr. Uterhart's ability.

The Uterharts were playing taped songs of several warblers, including Bachman's, when, "Suddenly I noticed a warbler appear high in a leafing tree on the West side of the road, and alight on an isolated cypress snag about 40 feet above me. With my 7x50 binoculars, I was able to observe the bird for about a minute. I noted the yellow undersides, the dark above, the black bib, yellow head and absence of wing-bars.

"Immediately I called Marion's attention to the bird's location. Her first remark, as she studied the warbler through binoculars, was 'It ought to be a hooded, but it lacks

a hood.' We could not distinguish complete crown or back details because of its height above us, but could clearly see face and chin areas in entirety. The warbler was silent and virtually motionless during this interval. Then it flew directly back to the foliage from whence it came, and we were able to confirm all the above details in passage. After comparing notes and consulting the two field guides, we concluded that we had without doubt seen an adult male Bachman's Warbler."

Some of the information in this note was taken from my unpublished manuscript "Bachman's Warbler and Its South Carolina Habitat." This was completed in April 1976 and is on file with the Charleston Museum. Accompanying it are the letters and documents quoted above. I thank Julian R. Harrison for telling me of John Lamey's observation and giving me his address.

[Assoc. Dept. Ed.—The individuals responsible for the Bachman's Warbler sightings described above are known as reliable and experienced observers. One of them, Beckett, has had extensive field experience with the species. In this editor's opinion, the details provided are convincing; however, independent verification of the sightings by other competent observers is lacking in all three instances. Therefore, the three records of Bachman's Warbler reported in this note must be treated with the caution due all sight records of rare birds. Publication of reports on additional sightings of the species in the FOn Swamp area is highly desirable.]

A New Look at the Type Locality of the Bachman's Warbler

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18 November 1976

In his description of Bachman's Warbler (*Vermivora bachmanii*), Audubon (1834) said of John Bachman's discovery, "The first obtained was found by him a few miles from Charleston, in South Carolina, in July 1833 while I was rambling over the crags of Labrador." This is the source for the type locality given in the AOU Check-list (1957). A letter from Bachman to Audubon dated 27 March 1833 and published by Ruthven Deane (1929), however, pinpoints the type locality and proves Audubon in error as to the date.

In that letter Bachman wrote of the bird he had just taken, "I was coming from Maj. Lees & near Parker's ferry heard a soft & pleasant note that was new to me." He shot the bird, but it lodged in the moss in the tree, and he continued toward Charleston. "Three miles further" he heard the song again and secured the bird. Mills' Atlas (1825) shows the name of the swamp there as Cawcaw Swamp, but the USGS Cottageville 15' quadrangle labels it Cardin Bridge Swamp, with Cawcaw Swamp contiguous and about a mile to the south. This places the type locality about 30 miles W of Charleston.

Parker's ferry of Bachman's day was located some 7 miles upstream from the point where US 17 crosses the Edisto River at Jacksonboro, and is not the same place as the Parker's Ferry on US 17, just east of Jacksonboro, S.C. The road Bachman used no longer crosses the river, but county road 317 follows the old route for much of its length in the area, and forms the boundary between Dorchester and Charleston counties. Thus, it is impossible to say in which of these two counties the type male was taken.

After discussing the discovery of the type female, Audubon (1834) wrote, "Shortly after, several were seen in the same neighbourhood. . . ." That Audubon meant the neighborhood of Parker's ferry is shown by Bachman's letter (Deane 1929). He also collected the types of Swainson's Warbler (*Limnothlypis swainsonii*) in the same vicinity (Audubon 1834) in the spring of 1832. Because the Edisto River at Parker's ferry marks

the border between Charleston and Colleton counties as well as that between Dorchester and Colleton counties, the female could have been collected in any of the three. It is certain, however, that Bachman collected it before writing Audubon on 27 March 1833 because Bachman had had the female skin in his possession for some time prior to that date. It is almost certain that the female was taken in July as Audubon (1834) stated, but in 1832 rather than 1833.

Another point of confusion arises because Bachman wrote that "the Bird was shot by Jostle the third," and in a footnote Deane (1929), misleadingly explained, "Dr. Bachman's familiar names for Audubon and his two sons 'Old Jostle, Jostle the second and Jostle the third.'" Neither of Audubon's sons was in South Carolina at the time, and the context of the letter leaves no doubt that Bachman, himself, was the collector.

Arthur T. Wayne (1907) found Bachman's Warbler breeding in I'On Swamp about 20 miles NE of Charleston, and incorrectly assumed that place to be the type locality. Though he collected other birds in Cawcaw Swamp, he failed to encounter any Bachman's Warblers there. Nevertheless, it may have persisted in the area. E.A. Williams and several companions saw a singing male in Cawcaw Swamp from 16 March through 3 April 1955 (Chamberlain 1958).

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[Mayrant's Backwater appears in the literature with at least four different spellings. Mr. Shuler has chosen the one that appears to be most widely accepted. A large-scale map of Francis Marion National Forest and its immediate surroundings can be obtained by writing the U.S. Department of Agriculture Forest Service—Southern Region, 1801 Assembly Street, Columbia, S.C. 29201. I'On Swamp Road, Clayfield Road, and other points of interest to birders in search of Bachman's Warblers are clearly designated.—Ed.]

BRIEFS FOR THE FILES

HARRY E. LeGRAND JR., *Guest Compiler*
(All dates 1976)

COMMON LOON: One was very late at Lake Jocassee in northwestern South Carolina, where it was seen in flight on 17 June by Harry LeGrand and Paul Hamel.

CORY'S SHEARWATER: Richard Rowlett and Paul DuMont tallied 94 birds on a pelagic trip off Cape Hatteras, N.C., on 1 August.

GREATER SHEARWATER: At least 18 were seen off Cape Lookout, N.C., on 23 June by Philip Warren; 15 to 20 were found off Carolina Beach, N.C., by James Parnell on 10 July; and five were noted off Cape Hatteras, N.C., on 1 August by Richard Rowlett and Paul DuMont.

SOOTY SHEARWATER: Approximately 100 were observed migrating northward along Bodie Island, N.C., on 5 June by Robert Ake, Paul DuMont, Harry LeGrand, Clark Olson, et al. Two were seen 4 miles off Cape Lookout, N.C., on 23 June by Philip Warren.

AUDUBON'S SHEARWATER: One was picked up dead on Kiawah Beach, S.C., on 23 June by Dennis Forsythe and David Chamberlain (specimen to The Citadel). Twenty-one were seen in the Gulf Stream off Cape Hatteras, N.C., on 1 August by Richard Rowlett and Paul DuMont.

WHITE PELICAN: One reported at Pea Island, N.C., in late May was seen on several other occasions in June, last noted on 23 June by Robert Fleischer.

WHITE-TAILED TROPICBIRD: An adult was seen 33.5 miles SE of Beaufort Inlet, N.C., during an offshore cruise on 25 June by Dave Lee and Darryl Moffett.

MAGNIFICENT FRIGATEBIRD: Single individuals were rare visitors at Morehead City, N.C., on 20 June (Bob and Mary Simpson, fide John Fussell), and at Cape Island, S.C., on 25 July (Carol Sue and Edward Burroughs, Jack Hagan).

CATTLE EGRET: An individual was late at Chapel Hill, N.C., on 29 May as reported by James Pullman.

REDDISH EGRET: One was carefully studied at Huntington Beach State Park, S.C., on 14 July by Frederick Probst, one of the few records for the Carolinas.

YELLOW-CROWNED NIGHT HERON: An immature was observed on 3 July and on several other July dates at Winston-Salem, N.C., by Fran Baldwin.

WOOD STORK: Unusual inland occurrences were recorded in North Carolina where single birds were found at Eden on 2 June (a sick or exhausted bird that died the following day, fide Edward Burroughs; now a specimen at the N.C. State Museum), and near Bolton on 10-11 July (photographed by Tim Nifong). Two were also unusual inland near Laurens, S.C., on 11 June, M.R. Lennartz and R.G. Hooper.

SURF SCOTER: John Fussell captured a sick male at Morehead City, N.C., on 19 June. The bird died later.

BLACK SCOTER: One was an unusual summer lingerer on the Cape Fear River near Southport, N.C., on 19 July, James Parnell and Robert Soots.

MISSISSIPPI KITE: One was a very rare visitor at Cedar Mountain, N.C., on 6 June, Edmund Farrar. Fourteen were sighted along the Pee Dee River, S.C., between Cheraw and Society Hill by Robin Carter, Carlie Eastman, Angelo Capparella, et al. on 31 July.

SHARP-SHINNED HAWK: A rare summer report for the piedmont was an individual seen on 3 July at Durham, N.C., by James Pullman.

- COOPER'S HAWK:** One was seen on 5 June south of Hillsborough, N.C., by Mike Godfrey, and the same observer also found an adult female that had been stunned by a car at Chapel Hill, N.C., on 19 June. The latter bird recovered and was released.
- MARSH HAWK:** Wendell Smith saw one at North Wilkesboro, N.C., on 18 July, probably a very early migrant.
- KING RAIL:** Individuals were heard calling near Pendleton, S.C., on 30 May and 26 June by Harry LeGrand, rare records for the northwestern part of the state.
- SORA:** An adult was flushed by John Fussell from a brackish marsh at North River near Beaufort, N.C., on 29 June, perhaps the first summer record for the state.
- LONG-BILLED CURLEW:** One was at the northeastern tip of Portsmouth Island, N.C., on 31 July, seen by Richard Rowlett, Paul DuMont, and Frank Schaff.
- WHIMBREL:** Four were early on 24 June on the North Carolina Outer Banks, observed by Joseph Hudick.
- LESSER YELLOWLEGS:** A rare June sighting was an individual at North River marsh near Beaufort, N.C., on 29 June, John Fussell.
- CURLEW SANDPIPER:** One in 90% breeding plumage was seen on Portsmouth Island, N.C., on 31 July by Richard Rowlett, Paul DuMont, and Frank Schaff.
- WILSON'S PHALAROPE:** A male was seen by John H. Dick on 1 June at Deveau Bank along the South Carolina coast.
- GLAUCOUS GULL:** An immature was rare and very late on the lower Cape Fear River near Southport, N.C., on 11 May, James Parnell and Robert Soots.
- SOOTY TERN:** Single individuals were rare visitors to the coast at Cape Lookout, N.C., on 3 July (Margaret Conderman, Sue and Alex Meadows, and Ann and Daniel Forster), and at Deveau Bank, S.C., on 11 July (Sandy Sprunt, Mr. and Mrs. Carlyle Blakeney, Walter Pate, and Kathleen Gibbs).
- BARN OWL:** A nest with five young was found in Eden, N.C., on 19 May by Frank and Margie Walker. Local residents report that the nest tree has been in continuous use by this species for 15 years. Another nest, with two nearly grown young, was found in early June in an old duck blind in Pamlico Sound behind the Bodie Island, N.C., lighthouse by Robert Fleischer.
- BURROWING OWL:** One was a very rare visitor at Huntington Beach State Park, S.C., on the surprising date of 24 June, Frederick Probst.
- CHUCK-WILL'S-WIDOW:** Walter Holland heard one near Brevard, N.C., on 29 May, a very rare report from the mountain region.
- RED-CKOADED WOODPECKER:** A small population was discovered this spring by Barbara Lee in the Uwharrie National Forest, Montgomery County, N.C., a location farther to the west than any other presently known site for the species in the state.
- CEDAR WAXWING:** This species was noted during June near Zebulon, N.C., (Eloise Potter and Gladys Baker) and Burlington, N.C., (Robin Carter, Carlie Eastman, Barbara Roth); and many birds were seen throughout the summer in the Winston-Salem, N.C., area. No evidence of breeding was detected at any of the localities.
- SWAINSON'S WARBLER:** Clark Olson saw an adult and a fully fledged immature on 26 June along Swift Creek near Raleigh, N.C., strongly suggesting a first nesting record for Wake County.
- BLUE-WINGED WARBLER:** Harry LeGrand and Paul Hamel counted 18 singing males and two females in Cherokee County, N.C., to the south and west of Murphy on 31 May. No positive evidence of breeding was noted, though the birds were obviously on territory. The observers found no sign of hybridization in the approximately 10 birds that were seen clearly.

NORTHERN ORIOLE: The species nested again in the Winston-Salem, N.C., area, according to Ramona Snavelly; and a migrant was quite early at Hickory, N.C., on 27 July, Garvin Hughes.

SCARLET TANAGER: One was unusual and southeast of its breeding range at Brook-green Gardens near Myrtle Beach, S.C., on 26 June, Frederick Probst.

PAINTED BUNTING: An adult male was singing at Jefferson, S.C., in the Sandhills region, on 31 July, as observed by Mike Boatwright. This location is over 50 miles from the nearest known breeding areas in the Carolinas.

DICKCISSEL: Sidney Gauthreaux found three singing males and a female in a field near Pendleton, S.C., on several dates in the last half of May, but the birds disappeared when the field was mowed.

HOUSE FINCH: A pair nested for the first time at Winston-Salem, N.C., where two juveniles were seen with the breeding male (the adult female was seen earlier in the summer) between 12 and 19 July at a feeder at the residence of Dr. and Mrs. Frank Albright, fide Ramona Snavelly. Elizabeth Clarkson noted two pairs at Charlotte, N.C., this summer, and one adult was seen feeding a fledgling on 30 June. The first evidence of possible breeding in South Carolina was noted by Mike Boatwright near Rock Hill, where a singing male and a female gathering food were seen on 31 July.

BACHMAN'S SPARROW: A singing male was observed by Harry LeGrand on 7 June in extreme northeastern Warren County, N.C., near the eastern border of the species' range.

CORRIGENDA: Through an editorial error, it was incorrectly reported in the spring "Briefs" (Chat 40:73) that 20 Orange-crowned Warblers were seen at Magnolia Gardens on 14 March. This record should be deleted; only a single bird was observed. A Philadelphia Vireo sighting attributed to Jay Carter (Chat 40:50) was actually made by Evelyn Dabbs on 27 September 1975 near Vass, N.C.

Contributors to the "Briefs for the Files" should continue to send their noteworthy sightings to Robert P. Teulings, Route 2, Box 154, Chapel Hill, N.C. 27514.

BOOK REVIEWS

(Continued from Page 10)

demonstrate what endless pleasure it can provide, and what a loyal friend in joy and sorrow science, and above all natural science, can be." No dedicated bird student can read this book without discovering a new appreciation of ornithology as vocation or avocation.—EFP

Wintering of the Migrant Bald Eagle in the Lower 48 States

Donald A. Spencer. 1976. National Agricultural Chemicals Association, 1155 15th Street, N.W., Washington, D.C. 20005. 170 p. Paperback. Price not given.

Dr. Spencer attempts to give a nationwide overview of migrant Bald Eagles (exclusive of our nesting population) that winter in the lower 48 states. Anyone seriously interested in the protection of the Bald Eagle will want a copy of this up-to-date, fact-filled book. It contains information on such topics such as migration, distribution, habitat preference, food preference, feeding behavior, roosts, and sanctuaries. The author urges each reader to use data from the book in preparing reports on the status of the Bald Eagle in his own locality. Unfortunately, we in the Carolinas seldom have an opportunity to see Bald Eagles, much less study them. Dr. Spencer says the current status of the winter-migrant Bald Eagle population is "very encouraging." I sincerely hope his optimism is justified.—EFP

Birds of the South

Charlotte Hilton Green. 1933. Reprinted 1975 by Dover Publications, Inc., 180 Varick Street, New York, N.Y. 10014. 277 p. Paperback. Index. Black-and-white illustrations. \$3.50

Mrs. Green's book was one of the first I read on the subject of birds. I soon progressed to Bent's *Life Histories*, Welty's *Life of Birds*, and Pettingill's *Ornithology*; but I did not forget the appreciation of nature that inspired the author of *Birds of the South*. Talking with beginning birders, I never explain the difference between the male and female Cardinals without recalling that she wears "a chiffon veil over her rose dress." There is no telling how often I quote Mrs. Green without realizing it. This much I do know, my life is richer for having known her personally and through her writings. Dover is to be commended for making *Birds of the South* readily available to a new generation of bird watchers.—EFP

The Bird Finder's 3-year Note Book

Paul S. Eriksson. 1976. Paul S. Eriksson, Inc., 119 W. 57th Street, New York, N.Y. 10019. Paperback with plastic binding. \$7.95

This note book contains a page for every day of the year with space on each page for writing three five-line entries. The owner fills in the year block at the beginning of each entry, making it impossible for the book to go out-of-date before it has been used. A filler at the bottom of each page gives an interesting fact about birds. At the back of the note book is a Life List Index with common and scientific names conforming to the usage current through publication of the 32nd Supplement to the AOU Check-list (fifth edition). Using Eriksson's note book is a convenient way for bird students to develop the habit of recording rare birds seen, arrival and departure of migrants, nesting dates, feeding behavior, and so forth. I have been amazed how often a casual entry in my journal has later provided useful information for me or for a friend. It is never too soon to begin jotting down notes on the birds you see and what they do throughout the year.—EFP



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Carolina Bird Club, Inc., is a non-profit educational and scientific association founded in March 1937 and open to anyone interested in the study and conservation of wildlife, particularly birds. Dues, contributions, and bequests to the club are deductible from State and Federal income and estate taxes. Checks should be made payable to Carolina Bird Club, Inc., and sent to CBC Headquarters, P.O. Box 1220, Tryon, N.C. 28782.

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OUR COVER—William Zimmerman, of Nashville, Indiana, placed the pair of Bachman's Warblers in the tupelo-Spanish moss setting in which John Bachman discovered the first male. Zimmerman's work has appeared in *The Living Bird* and *The Wilson Bulletin*. Currently he is painting upland game birds for a sequel to his large book, *Waterfowl of North America*.

BACHMAN'S WARBLER HABITAT

JAY SHULER

From the very beginning some descriptions of habitat occupied by Bachman's Warbler (*Vermivora bachmanii*) have seemed contradictory. In the original description Audubon (1834) called it "Bachman's Swamp-warbler," and its association with swamps, at least in the breeding season, has not been questioned since. In regard to the first specimen taken, a female, he quoted John Bachman that it was "gliding among the branches of thick bushes." Yet when Bachman later took the first male, he wrote to Audubon, "I saw the bird on the upper branches of the largest Tupelo Tree" (Deane 1929).

The first nest discovered was 2 feet from the ground in a 2-acre patch of blackberry bushes, but the male generally sang "seated on a dry or thinly leafed branch at a height of twenty to forty feet from the ground" (Widmann 1897).

Fall migrants at Key West, male and female, were "found alike in the trees, low bushes, and shrubbery, sometimes on or quite near the ground" (Scott 1890). Males and females migrating up the Suwanee River in spring, however, "not only frequented the tops of the tallest trees, but at all times of the day and under every condition of weather kept at a greater average height than any other Warbler excepting *Dendroica dominica*" (Brewster 1891).

Of only 37 known nests, and a few more yet may turn up in scattered oological collections, 32 were found by Arthur T. Wayne (field notes and collection books, Charleston Museum) in l'On Swamp about 20 miles NE of Charleston, S.C. The remainder were found by four different ornithologists in widely separated localities (Embody 1907, Holt 1920, Stevenson 1938, Widmann 1897 and 1907). Wayne's finds resulted from prolonged purposeful searching, rather than from chance which would favor discovery of the more accessible and conspicuous nests. As such, his data are a less biased sample than the others, and must weigh heavily in determination of Bachman's Warbler breeding habitat.

Of the first six nests he found, Wayne (1907) wrote, "The swamp in which this warbler breeds is heavily timbered and subjected to overflow from rains and reservoirs. The trees are chiefly of a deciduous character, such as the cypress, black gum, sweet gum, tupelo, hickory, dogwood, and red oak. In the higher parts of the swamp short-leaved pines, water oaks, live oaks, and magnolias abound. The undergrowth is chiefly cane, aquatic bushes, and swamp palmetto, while patches of blackberry brambles and thorny vines are met with at almost every step

"Bachman's Warbler . . . generally sings from the top of a sweet gum or cypress . . . and upon leaving a tree it flies a long distance before alighting. On this account it is impossible to follow the bird through the dark forest, and it can only be detected by its song."

The exact location of the first six nests can be inferred by checking a map (Fig. 1) of the area drawn in 1902 against Wayne's (1907) placement of the site. "This primeval forest is flanked on the western side by an enormous reservoir, the water of which is used to flow the rice fields that are in close proximity to the swamp."

The relationship of rice fields, swamp, and reservoir on the map makes clear that Wayne lapsed, and meant to say that the forest was flanked *by* the western side *of* the reservoir. The road along the western edge of the reservoir gave Wayne easy access to the area. Although the bottomland hardwood forest there was cut shortly before 1920, today it again vividly matches Wayne's description.

We know the size of one tree in that dark forest. Wayne (1910) shot a singing male "from the top of a huge water oak some eighty feet from the ground." On 21 May 1904 Wayne (1910) observed in the forest Black-throated Green Warblers (*Dendroica virens*) that "were singing constantly from the tops of the tallest trees, some of them being scarcely visible from the ground at such a height."

Analysis of Wayne's unpublished notes shows that no nests were placed higher

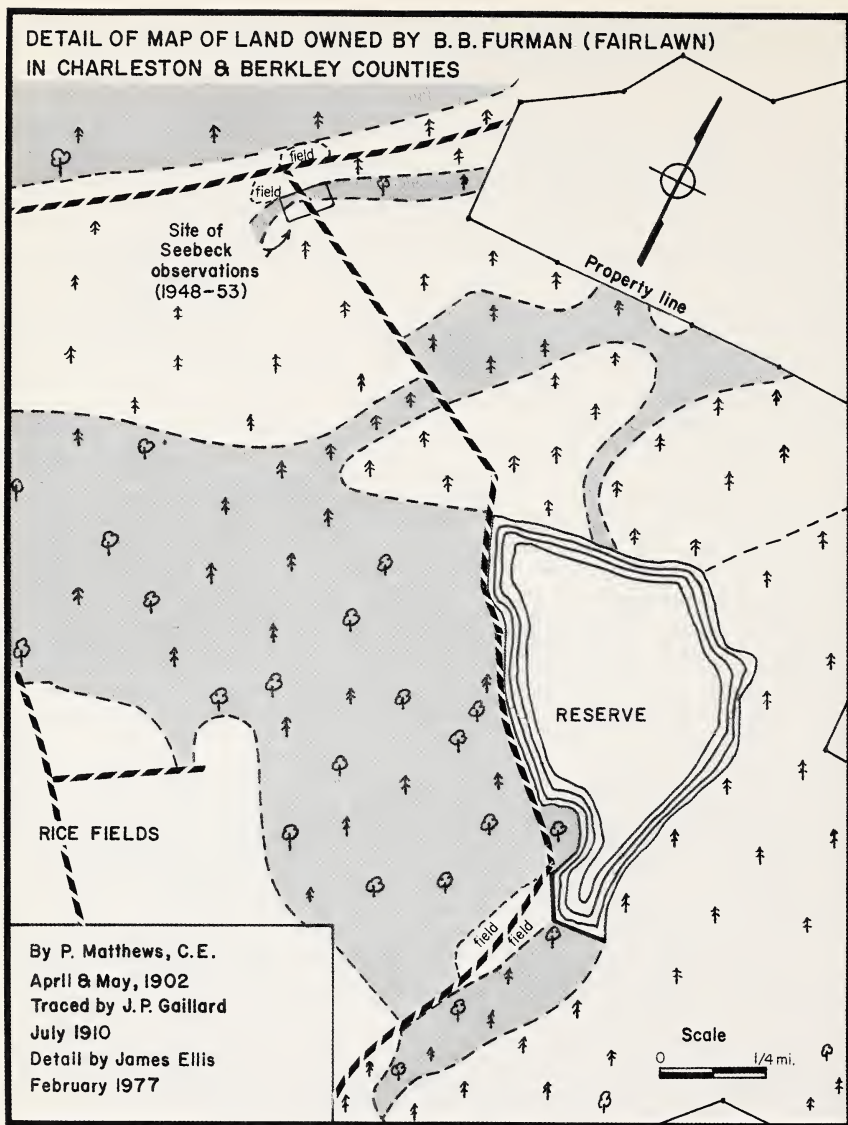


Figure 1

than 4 feet from the ground, and none lower than 1 foot. The average for the 28 nests for which data are given is 2.26 feet. All were concealed in dense underbrush, and usually were near, or over, standing water. To avoid the conclusion that these nests were found in the interior of a relatively mature, dense-canopied swamp forest one must assume that Wayne was not describing what he saw.

Here and there in Wayne's unpublished notes, however, are hints that while the Bachman's Warblers he saw were always associated with the interior of mature, or relatively mature, swamp forests during nesting, sometimes they simultaneously ex-

BACHMAN'S WARBLER SIGHTINGS BY SEEBECK

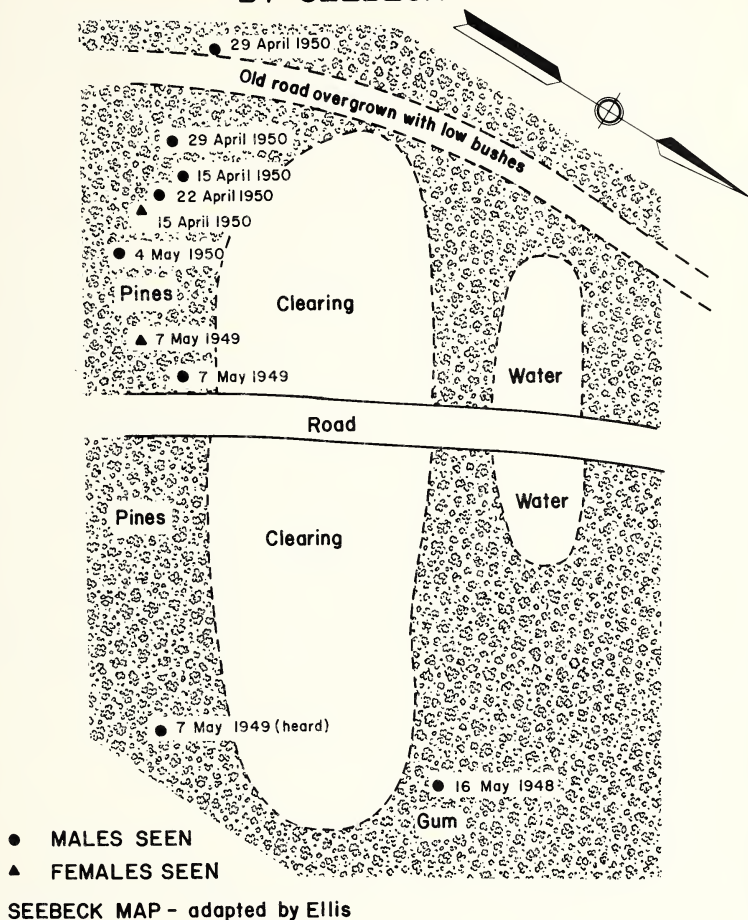


Figure 2

exploited habitat contiguous to the forest. On 10 May 1905 he shot an adult male, an immature male, an immature female, observed the parents of the young birds, and heard another male singing nearby, "All in low bushes on the edge of the backwater" (see Fig. 1). He found a nest on 17 April 1906 that was "three feet from the ground on comparative high-land and in an open place fully exposed to sunlight." This nest was in sharp contrast to the others, most of which were in deep shade.

Wayne (unpublished notes) saw his last Bachman's Warbler in l'On Swamp on 14 April 1920. Not until 8 May 1948 was it seen there again (Sprunt and Chamberlain

1949). From that day through the spring of 1953 (Barnes 1954) numerous observers, many of them professional ornithologists, observed Bachman's Warbler on Fairlawn Plantation, the privately owned part of l'On Swamp where Wayne (1907) first found nests.

Strikingly, females as well as males were recorded. In 1949 two males and a female were noted by N.H. Seebeck Jr., G.B. Rabb, T.M. Uzzell Jr., and others (Sprunt and Chamberlain 1949). Sprunt wrote to Shirley A. Briggs, editor of the *Atlantic Naturalist*, "The Bachman's Warbler appeared again in Fairlawn in 1950 and both the male and the female were seen on four occasions between April 15 and May 5" (Barnes 1954). Seebeck saw a female and two males on 4 April 1950 (Chamberlain 1958).

Published reports of the sightings made from 1948 through 1953 strongly suggest breeding, but unfortunately contain nothing to indicate location or extent of territory, habitat, or behavior beyond singing by males. Fairlawn is a large property, more than 6000 acres, and one could assume that the birds were found at several different places. This notion is dispelled by unpublished notes of N.H. Seebeck Jr. Included is a map (Fig. 2) showing forest types, location of a clearing, water, and roads. Exact sites and dates of many, but not all, of the observations are indicated.

The 1948-1953 observations centered upon a small clearing bisected by a dirt road (Fig. 2). Seebeck's notes of 15 April 1950 describe woods south of the clearing as "Almost all loblolly pine, few small gums, low bushes (inkberry?)." He recalls (letter, 23 November 1976), "There were large gum trees in the area; I remember distinctly that my first view of the bird on 16 May 1948 was in a very large gum on the left of the road near the end of the clearing (marked on the sketch)." According to notes of 7 May 1950 males were seen in the differing habitats on either side of the clearing: "Found bird [male] on far east side of road first, then moved into cypresses just north-west of clearing, then into usual territory to south-west of clearing."

At least one nearby territory was indicated by notes of 29 April 1950, "2 Males singing; one in woods east of clearing, one just south of it." And on 4 May 1950, "Another male singing to the west, heard only 3 or 4 times."

Encounters between Bachman's Warblers were recorded. On 15 April 1950 Seebeck "Saw male chasing female first, female had broken tail feather . . .", and on 6 May 1951 "Heard male singing as soon as we arrived. Very active but had good views for about 20 minutes. Charlie saw a movement in a small mulberry at edge of clearing and it turned out to be another male. He was not singing at all: appeared to be 'poaching' on other male's territory and wanted his presence unknown."

Within the pine zone of the territory the warblers kept mostly to the middle and lower stories. On 15 April 1950, "Male flew into small gum tree about 15 ft. high and fed for about 10-15 minutes"; 4 May 1950, "Fed through pines and low brush, singing constantly"; 7 May 1950, "Bird stayed in lower branches of pines almost constantly, only dropped into bushes once." Additional evidence for use of the lower story is the account given above of the "poaching" male.

Some detailed information and unifying conclusions about the habitat used by Bachman's Warbler are revealed by a careful reading of Wayne's published and unpublished writings, along with a study of Seebeck's notes. In sum, the Wayne and Seebeck data show that Bachman's Warbler territories may be limited to mature hardwood swamp forests that contain patches of thick undergrowth; or, territories may span the edge of swamp forest into other vegetative zones, including pine. Although nests are placed near the ground in the swamp forests, males in that habitat tend to spend much time in the upper story. Birds with territories spanning mixed habitats may satisfy their needs closer to the ground. Bachman's Warblers may colonize small patches of wet hardwood and cypress well removed from the main swamp.

ACKNOWLEDGMENTS

I thank Albert E. Sanders and the Charleston Museum for access to Wayne's unpublished notes; Richard D. Porcher Jr. and Gaillard and Gaillard (surveyors) for the map on which Figure 1 is based; James Ellis for preparation of Figures 1 and 2; and N.H. Seebeck Jr. for sending me unpublished notes and other information. Seebeck is to be commended for his persistence in visiting Fairlawn, and for recording and preserving his observations. Without his diligence what may have been the last opportunity to collect data on known Bachman's Warbler breeding territories would have been lost.

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BRIEFS FOR THE FILES

(Continued from Page 55)

- LINCOLN'S SPARROW: An individual was seen at North Litchfield Beach, S.C., on 1 November by Renee Probst. Inland migrants were observed at Raleigh, N.C., on 30 October by Clark Olson and at Townville, S.C., on 7 November by Harry LeGrand.
- LAPLAND LONGSPUR: One was identified among a flock of Horned Larks at Pendleton, S.C., on 2 November by Harry LeGrand. Six were seen there by the same observer on 30 November.
- SNOW BUNTING: A single bird was seen on 18 November at the Cape Point campground, Hatteras Island, N.C., by Joe Hudick. Elsewhere one was an unexpected find in the Raleigh, N.C., area on 13 November, observed at Beaver Dam Reservoir by Robert Hader.

THE WOOD STORK IN SOUTH CAROLINA, A REVIEW

PAUL B. HAMEL

Wood Stork (*Mycteria americana*) populations have declined in recent years (Ogden 1974) as a result of drought and human modification of nesting and feeding areas. The current population is estimated at less than 15-20% of the more than 100,000 birds that bred in Florida, and to a lesser extent in swamps of the Gulf and southern Atlantic coasts at the turn of the century (Wexler 1976). The following account traces the status of the species primarily in South Carolina; North Carolina records are also included.

The status of the Wood Stork in South Carolina is somewhat confused due to uneven reporting of observations. Historically, Wayne (1910) reported thousands of juveniles in Copahee Sound near his Mt. Pleasant, S.C., home every year in late summer. Sprunt and Chamberlain (1970) wrote in 1949 that the species was "really abundant in typical nesting localities in the midst of the breeding season" Since the time of that writing, the species has apparently decreased in abundance. Recent records, although sporadic, indicate that the species continues to persist in the state. At least one record exists from the Carolinas for 24 of the past 30 years (Fig. 1). These recent data indicate that the species probably is a permanent resident in small numbers in South Carolina, reaching lowest numbers in winter and increasing to peak abundance in mid- and late summer. The summer peak is in large part due to northward movements of storks out of Florida in May and June and as early as April in years when nesting colonies in that state fail (J.C. Ogden, pers. com.).

The breeding status is a different and disputed matter, however. Wayne (1910) reports visiting a breeding colony in Caw Caw Swamp, Colleton County, on 1 June 1885, although he took no eggs. Caw Caw is located today in Charleston County as a result of boundary changes made in 1911 (Glover 1962). Alexander Sprunt Jr. and others found 10 stork nests in the Penny Dam Reserve on the Fairlawn Plantation, Charleston County, on 5 June 1928 (from A. Sprunt Jr., field notes, fide J.C. Ogden, pers. com.). Several instances of adult birds carrying sticks have since been observed (Sprunt and Chamberlain 1970) although no nest has been found. The A.O.U. Checklist (1957) lists the species as a probable breeder in South Carolina, but Kahl (1964) makes no mention of that. During fieldwork in April and May 1976, Lewis Wright and I were able to make several observations which add support to the belief that Wood Storks may continue to nest in South Carolina.

On 23 April 1976 at 0700, we encountered a large group of wading birds in Penny Dam Reserve. The mixed foraging flock was composed of 100 White Ibis (*Eudocimus albus*), 15-20 Great Egrets (*Egretta alba*), four Great Blue Herons (*Ardea herodias*), and more than 10 Wood Storks. The birds were actively foraging in one of the channels that drain this cypress (*Taxodium distichum*) backwater. Water levels in the swamp were falling rapidly as a result of the longest drought in the history of the county, concentrating fish into the channels. Our approach startled some of the birds, and the wingbeats of the storks were plainly audible as they departed through the cypresses.

Later that same morning, at 0735, we were again attracted by the sounds of stork wings, several hundred feet away from the first observation site. This time the sounds came from the trees. From a distance of 100 feet we observed one individual standing on a cypress limb 20 feet up, rhythmically raising and lowering its head with a stick in its bill, putting the stick between its feet. Twenty feet farther away, about 25 feet up, another pair of storks was observed to copulate, the male standing on the female's back, flapping his wings loudly. When the copulation was finished both birds appeared to preen themselves. The latter behavior agrees closely with Kahl's (1972) description of Copulation Clattering display. Realizing that we had found nesting storks and wishing not to disturb them, we left the area.

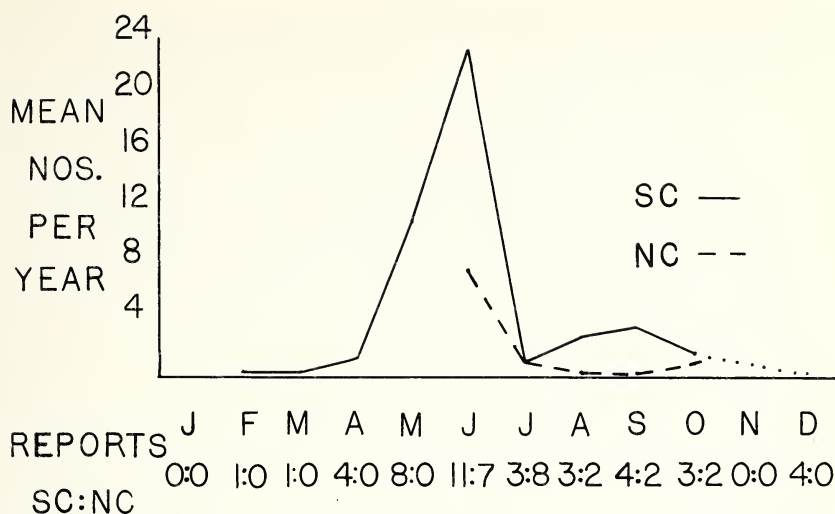


Fig. 1. Monthly occurrence of Wood Storks in the Carolinas, 1947-1976. Summary of records appearing in the *Chat* since the first edition of Sprunt and Chamberlain (1970) was published in 1949. All years save 1947, 1949, 1952, 1966, 1969, 1973 are represented in the data set for at least one of the states. "Reports" lists the total number of records by state by month. Four North Carolina records, two July and one each October and November (Pearson et al. 1959) are omitted because no numbers were given.

We returned on the afternoon of 14 May with John Cely and Beth Wright to determine the status of the nesting effort. Unfortunately, the birds had quit nesting. Water levels had receded further still despite rains early in May, and our thorough search failed to find evidence of nests. Approximately 25-30 storks were observed foraging in another part of the backwater, near a rookery of herons, egrets, and Anhingas (*Anhinga anhinga*). Earlier that day the Wrights had seen eight storks flying over Mayrant's Backwater, a mile to the NE. We were also unsuccessful during a final visit to the rookery in the Reserve on 19 May. Species nesting in the rookery were Anhinga, Great Blue Heron, Green Heron (*Butorides virescens*), Great Egret, and Common Grackle (*Quiscalus quiscula*).

On 18 May we found another flock of 30 storks at Cat Island Plantation, in the Santee delta, Georgetown County, S.C. Between 27 May and 4 June, Ogden (pers. com.) found 230 storks in Charleston County, in addition to those mentioned above, during searches sponsored by the National Audubon Society.

Wood Storks' dependence upon highly specific conditions of water level (Kahl 1964) for feeding and nesting indicates that the species' status is highly volatile and uncertain. Ogden (1973, 1974) suggests that careful records be kept of known stork populations in Florida. Any and all observations of the species in the Carolinas are important as well. I suggest that all observations of Wood Storks in the Carolinas be reported to the compiler of the "Briefs for the Files" so he will be able to summarize the status of this species regularly and accurately in his column in *Chat*.

ACKNOWLEDGMENTS

This work has been supported by grants from the U.S. Forest Service, the National Audubon Society, and the Charleston, S.C., Natural History Society. I am in-

debted to Dr. Ritchie Belser and Mr. Ben Willie Richardson for allowing access to Fairlawn and to Cat Island, respectively. E.B. Chamberlain, C.W. Helms, M.P. Kahl, and J.C. Ogden have made useful comments on the manuscript.

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Roundtable

... with Louis C. Fink

Memorial for Tom Rial

The Georgia Ornithological Society is accepting contributions for a memorial to honor Tom Rial. Checks should be sent to John Swiderski, P.O. Box 38214, Atlanta, Georgia 30334. Tom's family will be notified of each contribution.

Plagiarism Among the Naturalists

Dr. and Mrs. Marcus B. Simpson Jr. published an article in the *North Carolina Historical Review*, Winter 1977 issue. Entitled, "The Reverend John Clayton's Letters to the Royal Society of London, 1693-1694: An Important Source for Dr. John Brickell's *Natural History of North Carolina*, 1737," the article cites many cases in which Brickell copied Clayton's descriptions, without giving credit. The Rev. Mr. Clayton made his original observations in Virginia, but Dr. Brickell set them down as pertaining to North Carolina. The article makes for fascinating reading. I had the privilege of recording it on tape for the N.C. Library for the Blind.

Request for Information

As regional reporter for region 4 (Florida, Georgia, and South Carolina) of the Colonial Waterbird Group, I am compiling a list of individuals researching any aspect of the biology of colonial water birds (gulls, terns, shorebirds, herons, ibis, etc.). Investigators are asked to send their names, addresses, and a short detailed description of past, current, or future research to James A. Rodgers Jr., Department of Biology, University of South Florida, Tampa, Florida 33620.

South Carolina Checklist

A new checklist of South Carolina birds, prepared by Perry E. Nugent, is available to Carolina Bird Club members through the Charleston Natural History Society. The lists are sold by mail with a minimum order of \$1.00 for 10 copies. Send orders to Pete Laurie, 1153 Cottage Road, Charleston, S.C. 29412, enclosing check payable to the Charleston Natural History Society.

Incidentally, staff members at the North Carolina State Museum of Natural History are working on a similar checklist for the birds of North Carolina.

Survival of Birds Without Food

In a previous column, I asked the question, "How long can a wild bird live without food?" The problem was put to me at a garden club meeting and assumed a hard freeze, with no insects and plants covered with ice. Robert Lochmiller, who is with the School of Forest Resources at the University of Georgia in Athens, has kindly summarized the results of three studies with caged birds. His sources are P.L. Errington in the *Wilson Bulletin* 51:22-37, 1939; Richard Gerstell, Pennsylvania Game Commission, Res. Bul. 3:1-121, 1942; and S. Charles Kendeigh, *Journal of Wildlife Management*, 9:217-226, 1945.

Game birds are considered first. Bobwhite in a cage without food at a constant temperature of -18°C . survived 60 hours. Under similar conditions, Hungarian Partridge survived 168 hours at -18°C .; Chukar survived 270 hours at -18°C .; Ruffed Grouse survived 185 hours at -18°C .; Ring-necked Pheasant survived 336 hours at -9°C .; Wild Turkey survived 324 hours at -18°C .; and Mallard survived 225 hours at -18°C .

The survival time for non-game birds (generally smaller species) was shorter. White-throated Sparrow survived 16 hours at -17°C .; White-crowned Sparrow survived 19 hours at -18°C .; House Sparrow survived 19 hours at -14°C .; Tree Sparrow survived 31 hours at -13°C .; Dark-eyed Junco survived 37 hours at -14°C .; Starling survived 64 hours at -1°C .; Red-shouldered Hawk survived 260 hours at -18°C .; Great Horned Owl survived 305 hours at -18°C .

Mr. Lochmiller points out that the ability of birds to tolerate low temperatures and periods of low food availability is usually controlled by behavioral modifications such as migrating southward. Because many birds do winter in extremely cold weather, however, the availability of food is a real problem. Under conditions of a hard freeze, Mr. Lochmiller observes, metabolism will be increased while maintaining a constant body temperature. Foraging actively increases the use of stored fat. Differences in activity will cause variation in metabolic rates.

Reviewing the study of caged birds, Mr. Lochmiller points out that heavier birds tend to live longer because of increased insulation and a decreased percentage of surface area per volume of larger birds.

The results cited may be high, Mr. Lochmiller feels, because a bird in the wild would be subject to more severe conditions (such as wind) and probably would be more active burning energy stores in search of food. Also, caged birds may portray abnormal behavior. Examples are Bobwhite quail (which huddle in a circular pattern), Ruffed Grouse (which spend nights in a snow shelter), and pigeons (which might seek the warmth of urban buildings.)

While a hard freeze is a potential hazard, many birds have evolved migrational, distributional, and behavioral adaptations to cope with such an environment. On occasion, severely cold temperatures may cause death by freezing before a bird starves.

I am grateful to Mr. Lochmiller for his detailed reply to my question.

Comment on Identification of Bachman's Warblers

It was with considerable interest that I read "Three Recent Sight Records of Bachman's Warbler" in the General Field Notes (Jay Shuler, *Chat* 41:11-12). Mention of this species immediately brings to my mind the most pleasant day of my bird-watch-

ing experience. It was a beautiful morning—19 May 1951—when Tom Uzzell, one of the “re-discoverers” of the Bachman’s Warbler in South Carolina, showed me a singing male of this species in the vicinity of Mayrant’s reserve. I shall always enjoy being reminded of that thrill.

The above mentioned report also reminds me of a point that does not receive much comment in print. It is that the male Bachman’s Warbler depicted on Plate 50 of *A Field Guide to the Birds* by Roger Tory Peterson (undoubtedly one of “the two field guides” referred to in the report of Andrew and Marion Uterhart) is inaccurately represented. It shows the bird with its entire bib, including the throat, as black. This is incorrect. The bird’s throat is yellow [or partly yellow—Ed.], a feature that those who seek the Bachman’s Warbler in the Carolina low country should be made clearly aware of. The black is more of a large patch on its upper breast. Perhaps the “black throat and cap” referred to in John Lamey’s observation simply represents an inexactness of description rather than an error in identification. Perhaps the Uterhart observation “it ought to be a hooded, but it lacks a hood” was not meant to be literal, for the face, chin and throat of the Bachman’s male and the male Hooded Warbler are quite different, *A Field Guide to the Birds* notwithstanding. I do not wish to belabor the point further but will continue to entertain some question in my own mind regarding sight records of the male Bachman’s Warbler which do not include comment upon the bird’s yellow throat.—ROBERT P. HOLMES III, 5003 Trentwoods Drive, New Bern, N.C. 28560.

Further Comment on the Variable Bachman’s Warbler

Robert P. Holmes III (see above) asserted that Roger Troy Peterson incorrectly represented Bachman’s Warbler in *A Field Guide to the Birds*, showing the throat of the male as black, whereas actually it is yellow.

In this regard, however, Peterson may have represented accurately the specific skin he used in preparing his drawing. William Brewster (Notes on Bachman’s Warbler, *Auk* 8:149-157) wrote of 36 males collected along the Suwanee River that “. . . the black in some cases appears over the entire throat and jugulum; in others is restricted to a small central space on the latter, leaving the whole throat as well as the chin, yellow.” For a full appreciation of the variability of Bachman’s, even in so small a series as 36, one should review the Brewster article.

A second objection to Peterson’s portrayal, and one that applies equally to those of Don Eckelberry and Arthur Singer in “other” field guides, is failure to show the yellow shoulder patch, a feature useful in identification and esthetically pleasing.

Another Peterson product sowing confusion in the ranks of Bachman’s Warbler searchers is his record album of bird songs for the Eastern and Central States. The Bachman’s song in that collection was taken in Virginia in 1954, and may be aberrant. This spring (1977) John Trochet and I were in the interior of I’On Swamp and heard two birds singing so nearly like the Virginia recording that we could not distinguish among the songs, even when we played the tape immediately following “live” performances. We were chagrined, after hours of peering into the dense canopy, to discover that the singers actually were Parulas. Other searchers report similar experiences.—JAY SHULER, P.O. Box 288, McClellanville, S.C. 29458.

Total individuals	COAST										COASTAL PLAIN									
	Bodie-Pea Is, N.C. 30 December	Morehead City, N.C. 22 December	Wilmington, N.C. 18 December	Litchfield-Pavleys Is, S.C., 19 Dec.	McClanville, S.C. 26 December	Charleston, S.C. 2 January	Hilton Head Is, S.C., 18 December	Beaufort Co., N.C. 26 December	Pamlico Co., N.C. 19 December	Dillon Co., S.C. 28 December	Florence, S.C. 26 December	Fayetteville, N.C. 18 December	Southern Pines, N.C. 23 December	Columbia, S.C. 18 December	Aiken, S.C. 26 December	Ronoke Rapids, N.C., 2 January				
746	48	74	248	318	6	14	23	1	1	1	5					
310	49	43	16	155	11	14	22	27					
425	41	59	37	9	73	78	15	3	7	22	27					
2	2					
970	69	53	90	35	125	68	80	44	22	3	35	13	92	27	28					
397	6	141	50	14	40	146					
779	1	125	80	23	15	65	5					
2446	1	800	1045	128	260	8	196	1	1					
41	2	6	9	43	19	5					
657	59	159	69	42	50	13	20	17	15	1	1	10	2	2	15					
9	1	17	7	13	15	4					
70	7	11					
442	2	1					
286	18	24	44	18	45	55	82					
337	23	24	17	51	50	110	62	1					
302	83	160	41	6	3	6	3					
29	2	25	2					
8	2	1	2	2	1					
23	3	20					
555	2	182	114	8	235	10	4					
1755	1700	7	10	1	13	23	1					
3385	941	26	145	25	31	16	1387					
7312	7311	1					
1	1					
2965	104	109	31	600	22	59	2	105	5	5	44	12	73	639					
1860	872	52	21	500	92	9	6	8	1	2	4	81					
988	517	2	5	160	127	20	1	6	21					
2177	2000	8	11	82	6	52	16	2					
4292	2000	206	7	1	2000	18	2	1	2	1	9					
148	1	54	39	50	3	1					
1751	196	2	2	201	800	52	80	3	305					
731	279	1	69	225	151	1	4					
169	2	12	9	4	37	8					
63	2	4	3	37	4	4	37	1	4					
1692	41	1	1	70	6	12														

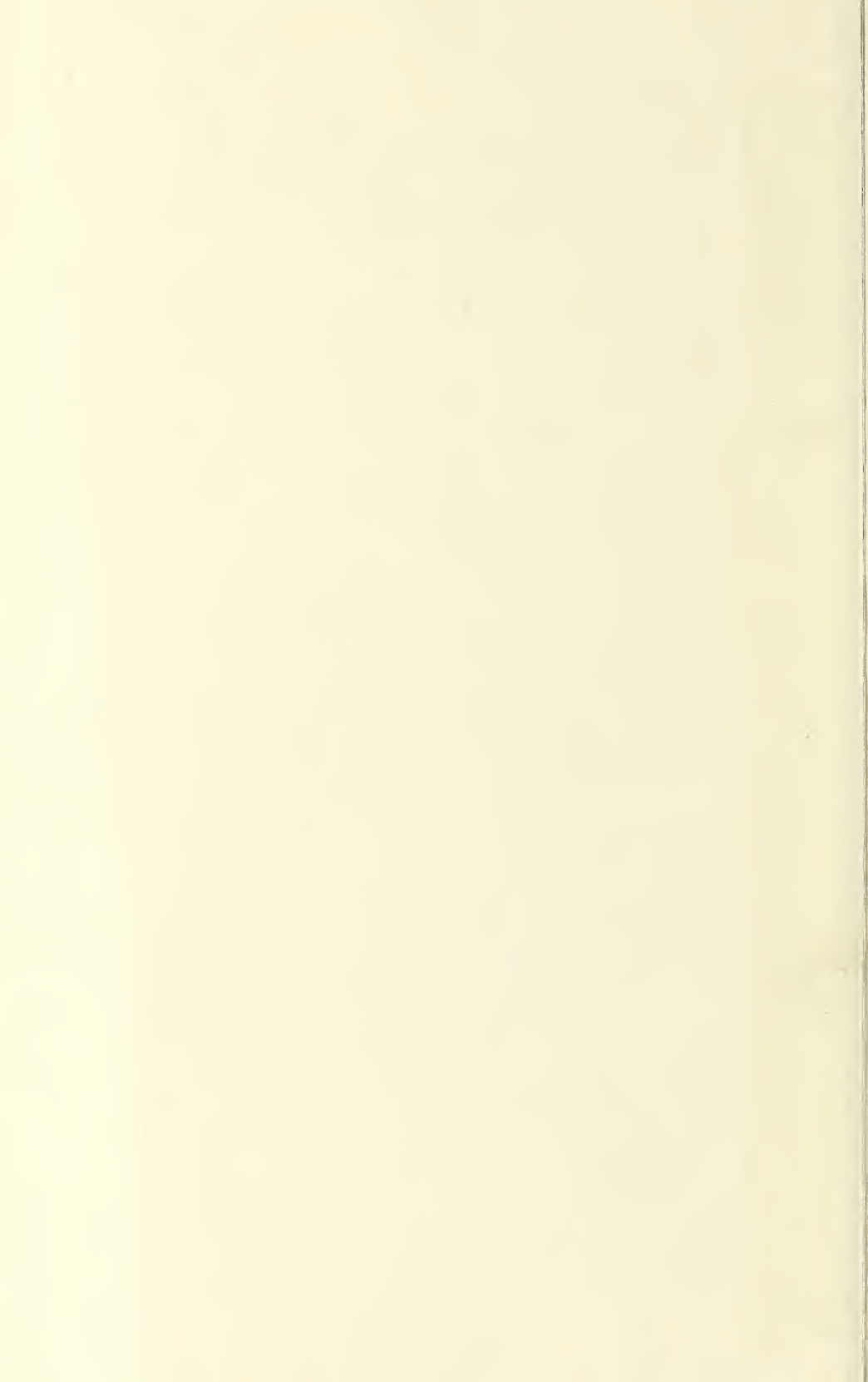
PIEDMONT															MOUNTAINS				
23 December	Raleigh, N.C. 19 December	Durham, N.C. 19 December	Chapel Hill, N.C. 2 January	Rockingham Co., N.C., 19 December	Greensboro, N.C. 18 December	Winston-Salem, N.C. 1 January	Stanly Co., N.C. 28 December	Iredell Co., N.C. 26 December	Charlotte, N.C. 31 December	Greenswood Co., S.C. 18 December	Greenville, S.C. 30 December	Clemson, S.C. 30 December	Elkin-Ronda, N.C. 24 December	Caldwell Co., N.C. 28 December	Tryon, N.C. 30 December	Brevard, N.C. 18 December	Buncombe Co., N.C. 18 December	Grandfather Mtn., N.C., 30 December	
3	17	84	2	3	2	33	16	9	7	7	3	7			4		6		
10	22	4	8	5	38	14	35	*	3	6		4	1		1				
6	166	9	88	30	243	290	53	1	35	20	25	56	100		9	17	3	4	
10	42		1	17		560		1					225				11		
34	57				3	1	1		7										
21	1		2		7	1		3				8				4			
4	651		3		13	12	2	1	32	41							99		
36						9	1		1										
22							5			4	4	29					4		
1	67											3				1			
2				3	27		2		1	16						1	1		
864																			
28			1		5	3				3							1		
1					20	*	11		3			1				*			
5	59	3			17	2	3			1	2	6			6	1			
1	7	3			77	7	16		26	13	2	*			1				
2	1	3			115	1	3		4	69	2				1	2	1		
2	2	1			9	1	2		*	5	1	1	1		1			2	
2	27	17	32	21	15	17	9	7	24	6	3	10	3		6	2	6	3	
4	6		2	1	6	2	2		3			2		1					
1			1	2				1	2		1	2	4		1		1		
			1	1													1		
10	41	16	9	12	5	8	12	10	5	2		12	2	2	3	10	5	1	
24	83	54	53	51	13	5	48	25	14	1	18	32	7	19	24		9		
1																			
883																			
			82		89	73	10		1	38	56	4				1	22		

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PIEDMONT															MOUNTAINS			
Vance Co., N.C. 23 December	Raleigh, N.C. 19 December	Durham, N.C. 19 December	Chapel Hill, N.C. 2 January	Rockingham Co., N.C. 19 December	Greensboro, N.C. 18 December	Winston-Salem, N.C. 1 January	State, Co., N.C. 28 December	Beaufort Co., N.C. 28 December	Charlotte, N.C. 31 December	Cornwall Co., S.C. 18 December	Greenville, S.C. 20 December	Clemson, S.C. 20 December	Elkin-Russell, N.C. 24 December	Caldwell Co., N.C. 28 December	Tryon, N.C. 30 December	Beaufort, N.C. 18 December	Beaufort Co., N.C. 18 December	Grandfather Mts., N.C. 30 December
	3						1			3								
	17			1	10		10			12		2					2	
	84	2	3	2	33	10	9		7	7	3	7			4		6	
10	22	4	8	5	36		35	*	3	6			4	1	1			
								1										
	10		1	17		500			1					225				
6	106 10 42	9	96 3	30	243 51 19	290 93	53 2 11	1	35 16 57	20 3	25	56 27	100 6		9	17	3 11	
	34				3	1			7									
	57				2	17	7		19	*		8						
	21 1		2		7 1	*		3								4		
4	651 30		3		13	12	2 1	1	32 1	41							99	
	22					9	5		4	4		29					4	
	1 67 2			3	27		2 2 2		1	16		3 *				1 1	1	1
	984 29 1		1		5 20	3 *	11 4		3		3		1			*		1
5	6 1 7	50 3 3	77 115	17 1	2	7 16	26 4	1	13 69	2	2	2 *	6		6	1		
1	1 3	1 1	1 1	1 1	4	2 3	1 1			1	5	1	1			2	1	
2	27 4	17 6	32 2	21 1	15 6	17 2	9 2	7	24 3	6	3	10 3			6	2	6	
						1								1				
1		1	2	2			1	2		1	2	4			1			1
		1	1				1											
10	41	16	9	12	5	8	12	10	5	2		12	2	2	3	10	5	
24	83	54	51	51	13	5	48	25	14	1	18	32	7	19	24		9	
	1																	
	963		92		80	1 73	10		1	38	56	4			1		22	

CHRISTMAS BIRD COUNT 1976	COAST										COASTAL PLAIN									
	Total individuals	Bodie-Pea Is., 30 December	Morehead City, N.C. 22 December	Wilmington, N.C. 18 December	Litchfield-Pawleys Is., S.C., 19 Dec.	McClanville, S.C. 26 December	Charleston, S.C. 2 January	Hilton Head Is., S.C., 18 December	Beaufort Co., N.C. 26 December	Pamlico Co., N.C. 19 December	Dillon Co., S.C. 26 December	Florence, S.C. 26 December	Fayetteville, N.C. 18 December	Southern Pines, N.C. 23 December	Columbia, S.C. 18 December	Aiken, S.C. 26 December	Roanoke Rapids, S.C.			
Killdeer	1553	51	101	48	2	32	30	64	37	83	6	34	55	3	53	24	22			
Bl.-bellied Plover	1138	206	297	318	83	33	48	135	4	14	.....	.....	.....	.....	.....	.....	.....
Ruddy Turnstone	341	8	47	51	67	9	36	123	.....	.....	.....	.....	.....	.....	.....	.....	.....
Am. Woodcock	66	1	8	6	.....	7	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Common Snipe	341	55	11	98	22	8	22	3	8	1	.....	.....	22	1	.....	.....	.....
Long-billed Curlew	1	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Whimbrel	4	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Spotted Sandpiper	23	.....	1	2	1	4	7	6	.....	.....	.....	.....	.....	1	.....	.....	.....
Willet	487	1	112	118	27	11	52	166	.....	.....	.....	.....	.....	.....	.....	.....	.....
Greater Yellowlegs	110	37	30	33	.....	4	4	2	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lesser Yellowlegs	61	48	2	3	2	2	3	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Red Knot	118	.....	101	.....	2	.....	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Purple Sandpiper	7	.....	6	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Least Sandpiper	46	.....	2	35	.....	.....	.....	5	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dunlin	3080	1046	754	257	570	90	44	319	.....	.....	.....	.....	.....	.....	.....	.....	.....
Short-bill. Dowitcher	437	11	176	235	.....	.....	.....	15	.....	.....	.....	.....	.....	.....	.....	.....	.....
Long-bill. Dowitcher	101	101	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dowitcher (sp ?)	131	.....	.....	.....	45	30	56	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sandpiper (sp ?)	249	.....	249	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Western Sandpiper	637	19	.....	62	120	35	68	333	.....	.....	.....	.....	.....	.....	.....	.....	.....
Marbled Godwit	3	.....	2	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sanderling	2528	1520	318	297	99	15	13	266	.....	.....	.....	.....	.....	.....	.....	.....	.....
American Avocet	54	54	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Parasitic Jaeger	2	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Jaeger (sp. ?)	1	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Glaucous Gull	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Gr. Bl.-backed Gull	1080	952	85	25	5	.....	2	1	6	4	.....	.....	.....	.....	.....	.....	.....
Lesser Bl.-backed G.	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Herring Gull	23159	9500	1947	10156	405	700	138	133	22	80	.....	.....	.....	.....	.....	.....	3
Ring-billed Gull	40797	16300	1725	10964	1535	350	145	615	154	33	.....	.....	.....	2	312	.....	840
Laughing Gull	4996	40	4091	688	23	25	40	89	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bonaparte's Gull	981	332	176	40	160	15	25	45	1	.....	.....	.....	.....	.....	.....	.....	1
Gull (sp. ?)	70	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Gull-billed Tern	1	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Forster's Tern	763	277	54	126	177	25	27	75	.....	2	.....	.....	.....	.....	.....	.....	.....
Common Tern	70	1	.....	1	46	16	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Royal Tern	326	5	61	160	53	1	2	44	.....	.....	.....	.....	.....	.....	.....	.....	.....
Caspian Tern	46	.....	.....	15	5	17	3	6	.....	.....	.....	.....	.....	.....	.....	.....	.....
Black Skimmer	771	17	4	500	157	.....	11	82	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rock Dove	2146	3	62	247	6	1	.....	1	28	.....	9	.....	8	14	134	46	7
Mourning Dove	12369	32	78	631	24	46	54	997	306	274	64	1061	588	93	581	8	999			
Ground Dove	50	.....	2	3	22	8	8	7	.....	.....	.....	.....	.....	.....	.....	.....	.....
Barn Owl	14	2	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Screech Owl	93	2	3	1	4	.....	2	.....	2	1	.....	.....	3	1	5	1	.....		
Great Horned Owl	72	2	1	4	1	2	5	3	.....	2	.....	.....	3	.....	5	.....	1
Barred Owl	69	.....	2	2	1	5	10	4	2	.....	.....	1	.....	2	2	.....	10
Long-eared Owl	1	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Short-eared Owl	5	1	2	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hummingbird (sp. ?)	1	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Belted Kingfisher	485	30	39	50	52	18	35	27	11	18	3	9	7	8	10	.....	.....	
Common Flicker	1991	81	69	171	41	72	153	94	125	34	22	52	58	24	88	40	17			
Pileated Woodpecker	310	1	10	17	12	5	63	30	9	13	2	6	5	2	7	14	19			
Red-bellied Woodp.	1161	21	14	26	18	26	88	64	18	14	16	18	14	22	32	16	8			
Red-headed Woodp.	85	.....	.....	1	.....	.....	3	8	1	.....	.....	.....	.....	2	7	.....	.....	
Yel.-bel. Sapsucker	710	18	7	17	15	16	118	28	9	5	6	12	7	12	25	19	3			
Hairy Woodpecker	185	1	1	6	.....	6	18	4	3	2	1	2	6	.....	5	1	10	
Downy Woodpecker	864	13	14	22	8	7	62	21	19	2	2	12	20	10	15	16	4			
Red-cock. Woodp.	51	.....	2	3	2	.....	28	.....	10	.....	.....	.....	.....	2	4	.....	.....	
Eastern Phoebe	266	5	11	6	6	10	11	14	11	7	6	7	32	1	13	7	1			
Horned Lark	1260	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	12	.....	.....	1169
Tree Swallow	294	57	3	11	.....	10	.....	213	.....	.....	.....	.....	.....	.....	.....	.....	.....
Blue Jay	3792	23	37	104	96	30	265	87	111	46	40	39	55	43	141	117	15			
Common Raven	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Common Crow	5258	36	8	773	76	50	160	195	6	17	.....	.....	26	16	50	49	7	
Fish Crow	2845	90	129	1936	314	34	47	266	11	17	.....	.....	.....	.....	.....	.....	.....
Black-cap. Chickadee	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Carolina Chickadee	3933	26	71	79	81	26	138	134	48	5	26	40	49	31	159	29	159			
Tufted Titmouse	2242	1	24	25	93	16	104	30	25	10	10	28	58	20	50	17	7			
White-br. Nuthatch	398	.....	.....	.....	.....	.....	9	.....	6	.....	.....	1	2	.....	1	4	2
Red-br. Nuthatch	177	3	.....	3	4	2	5	2	.....	.....	2	.....	.....	6	11	9	.....		
Brown-hd. Nuthatch	638	7	13	44	2	24	79	2	12	3	10	35	12	14	35	41	13			
Brown Creeper	197	3	3	2	1	1	3	.....	1	.....	1	.....	4	1	4	.....	.....	
House Wren	128	30	25	19	4	7	9	4	2	3	.....	1	.....	.....	3	.....	.....	
Winter Wren	233	6	1	14	2	10	17	3	3	.....	1	2	3	3	4	.....	1	
Carolina Wren	2295	82	55	67	54	35	51	67	40	21	11	29	37	22	92	25	13			
Long-bill. Marsh W.	78	17	27	14	2	4	5	2	2	5	.....	.....	.....	.....	.....	.....	.....
Short-bill. Marsh W.	61	27	4	11	1	6	6	4	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mockingbird	1937	41	121	77	57	22	42	97	70	25	30	15	34	10	84	25	73			
Gray Catbird	180	96	16	12	5	10	11	10	.....	5	1	1	.....	.....	.....	.....	.....
Brown Thrasher	433	12	23	14	10	8	73	11	11	1	4	8	6	13	33	12	2			
American Robin	113204	15000	1108	1194	164	900	460	201	408	440	119	56	62	19	120	536	419			
Hermut Thrush	495	19	76	61	6	10	89	4	1	2	10	7	5	4	11	4			

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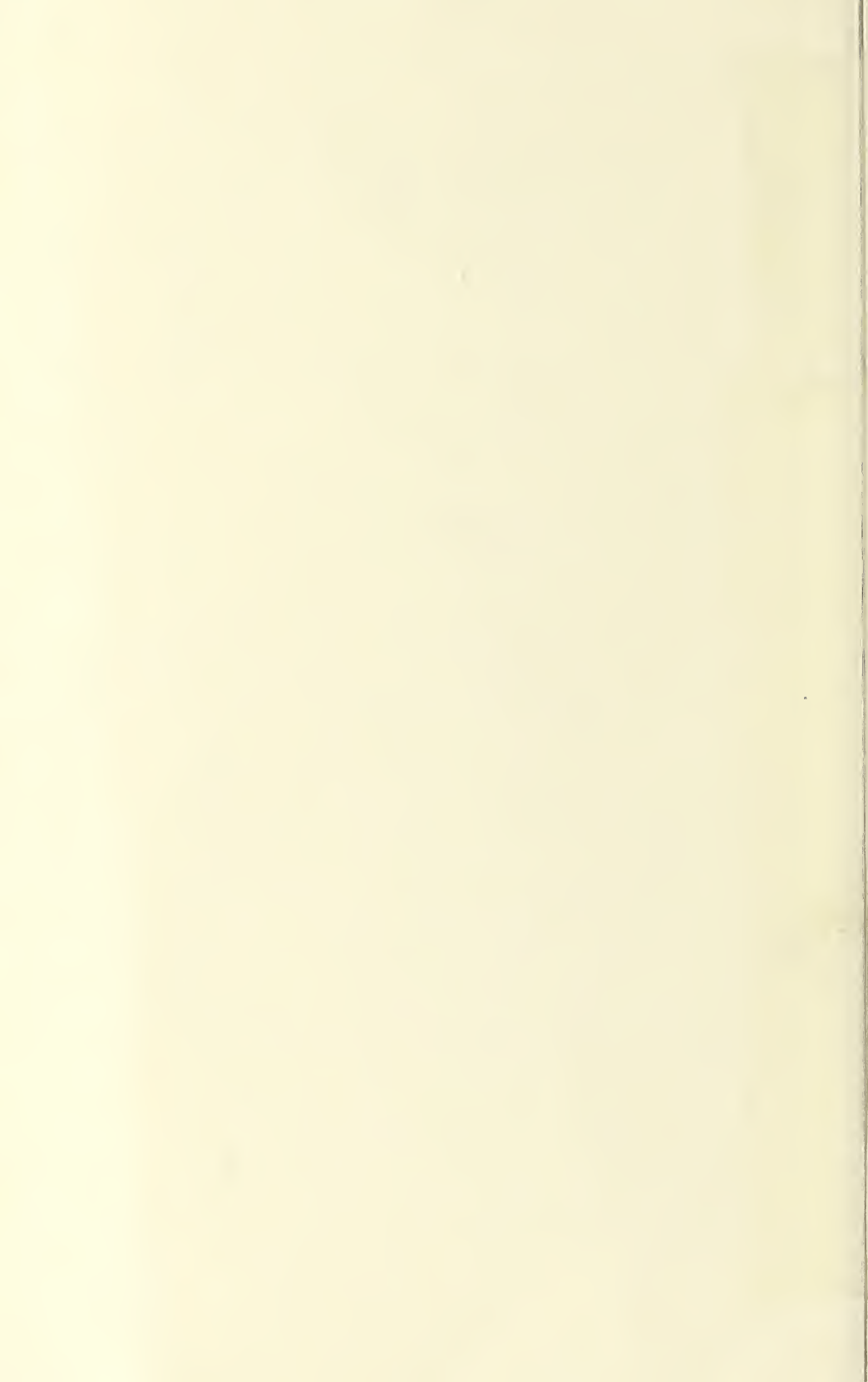


CHRISTMAS BIRD COUNT 1976	Total individuals	COAST										COASTAL PLAIN										PIEDMONT										MOUNTAINS									
		Beale-Poy Is. N.C. 30 December	Morehead City, N.C. 28 December	Wilmington, N.C. 18 December	Lashfield Playery Is. S.C. 18 Dec	McCollville, S.C. 20 December	Charleston, S.C. 2 January	Hilton Head Is. S.C., 18 December	Stanley Co., N.C. 20 December	Pamlico Co., N.C. 18 December	Pittsboro, S.C. 20 December	Pharmersville, S.C. 20 December	Fayetteville, N.C. 16 December	Southern Pines, N.C. 21 December	Columbia, S.C. 16 December	Aiken, S.C. 20 December	Blacksburg, N.C. 20 December	Vance Co., N.C. 20 December	Watauga Co., N.C. 19 December	Chatham Co., N.C. 19 December	Chapel Hill, N.C. 2 January	Rockingham Co., N.C. 19 December	Greensboro, N.C. 19 December	Winston-Salem, N.C. 1 January	Stanhope, N.C. 28 December	Irredell Co., N.C. 28 December	Charlotte, N.C. 31 December	Greensboro Co. S.C. 18 December	Greenville, S.C. 30 December	Clemson, S.C. 30 December	Elberton, N.C. 24 December	Caldwell Co., N.C. 28 December	Troy, N.C. 30 December	Brevard, N.C. 18 December	Burke Co., N.C. 18 December	Grandfather Mtn., N.C. 30 December					
Killdeer	1553	51	101	48	2	32	30	64	37	83	6	34	55	3	53	24	25	1	287	65	3	53	46	28	34	54	50	6	40												
Bl.-bellied Plover	1138	206	297	349	83	33	48	135	4	14								3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3				
Ruddy Turnstone	341	6	47	51	67	9	38	123										6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6				
Am. Woodcock	66	1	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6				
Common Snipe	341	55	11	98	22	6	22	3	6	1			22	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1				
Long-billed Curlew	1	1																																							
Wandering Tattler	4	3	3																																						
Spotted Sandpiper	23		1	2	1	4	7	6																																	
Willet	457	1	112	116	27	11	52	166																																	
Greater Yellowlegs	110	37	30	33	4	1	2	2																																	
Lesser Yellowlegs	61	48	2	3	2	2	3	1																																	
Red Knot	118	6	101				15																																		
Purple Sandpiper	7	7	6	1																																					
Least Sandpiper	46	2	35				5																																		
Dowitcher	3080	1046	754	257	570	90	44	319																																	
Short-bill. Dowitcher	437	11	178	235			15																																		
Long-bill. Dowitcher	101	101																																							
Dowitcher (sp. ?)	131				45	30	56																																		
Sandpiper (sp. ?)	249		249																																						
Western Sandpiper	637	19		82	120	35	68	333																																	
Marbled Godwit	5	2					1																																		
Sanderling	2528	54	318	297	99	15	13	386																																	
American Avocet	2	180																																							
Parasitic Jaeger	2		1	2																																					
Jaeger (sp. ?)	1																																								
Clayton's Coll.	1	1	1																																						
Cr. Bl.-backed Coll.	1080	952	65	25	5		2	1	6	4																															
Lesser Bl.-backed Coll.	1																																								
Herring Gull	23159	9300	1947	10156	405	700	138	133	22	80																															
Ring-billed Gull	40797	16300	1725	10964	1535	550	145	815	154	33																															
Laughing Gull	4996	40	491	688	23	25	40	69																																	
Bonaparte's Gull	861	332	178	40	100	15	25	45	1																																
Call (sp. ?)	70																																								
Call-billed Tern	1																																								
Forster's Tern	763	277	54	128	17	25	27	75																																	
Common Tern	70	1			1	48	16	6																																	
Royal Tern	328	5	61	180	53	1	2	44																																	
Caspian Tern	46		15	5	17	3	6	6																																	
Black Skimmer	771	17	4	500	157		11	82																																	
Rock Dove	2146	3	62	247	6	1																																			
Mourning Dove	12349	32	78	631	24	46	54	997	1																																
Ground Dove	14	2	2	3	22	8	6	7																																	
Barn Owl	93	2	2		1	4																																			
Screech Owl	93	2	2		1	4																																			
Great Horned Owl	72	2	1	1	2	5	3																																		
Barred Owl	69		2	2	1	5	10	4	2																																
Long-eared Owl	1																																								
Short-eared Owl	5	1	2		1																																				
Hummingbird (sp. ?)	1	1																																							
Belted Kingfisher	485	30	39	50	32	16	35	27	11	18	3	9	7	6	10																										
Golden-crowned Kinglet	691	171	61	103	41	133	41	133	25	34	22	56	24	88	40	173																									
Pinked Woodpecker	31	1	10	17	12	5	83	30	9	13	2	6	5	2	7	14	19																								
Red-bellied Woodp.	1161	21	14	26	18	26	88	64	18	14	18	18	14	22	32	16	81																								
Red-headed Woodp.	65																																								
Yel.-bel. Sapsucker	710	18	7	17	15	16	116	28	9	5	6	12	7	12	25	19	31																								
Hairy Woodpecker	185	1	1	6		6	16	4	3	2	1	2	6		5	1	10																								

CHRISTMAS BIRD COUNT 1976	COAST														COASTAL PLAIN									
	Total individuals	Bodie-Pea Is., N.C. 30 December	Morehead City, N.C. 22 December	Wilmington, N.C. 18 December	Litchfield-Pawleys Is., S.C., 19 Dec.	McClellanville, S.C. 26 December	Charleston, S.C. 2 January	Hilton Head Is., S.C., 18 December	Beaufort Co., N.C. 26 December	Pamlico Co., N.C. 19 December	Dillon Co., S.C. 28 December	Florence, S.C. 26 December	Fayetteville, N.C. 18 December	Southern Pines, N.C. 23 December	Columbia, S.C. 18 December	Aiken, S.C. 26 December	Roanoke Rapids, S.C. 28 December							
Swainson's Thrush	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Eastern Bluebird	1641	.....	10	10	39	50	15	68	68	23	12	23	16	46	27	37	3						
Bl.-gr. Gnatcatcher	32	.....	.....	3	1	4	9	10	.....	.....	.....	4	.....	.....	1	.....	.....					
Golden-cr. Kinglet	1310	21	84	44	58	72	52	.....	11	6	7	32	61	16	28	17	5						
Ruby-cr. Kinglet	3133	34	98	161	371	200	618	48	40	13	24	112	69	14	128	127	8							
Water Pipit	1253	10	26	40	2	25	.....	37	320	.....	16	180	.....	.....	15	.....	9		
Cedar Waxwing	3333	139	1	77	7	15	6	240	17	.....	34	12	85	19	96	12	9						
Loggerhead Shrike	265	.....	4	5	6	5	4	18	2	.....	4	4	9	11	28	13	.....						
Starling	561497	218	1555	8474	311	14	110	27	218	288	301	418	808	330	1947	473	188							
White-eyed Vireo	10	1	1	1	.....	3	2	2	.....	.....	.....	.....	.....	.....	.....	.....	.....
Solitary Vireo	39	.....	4	5	4	7	7	1	.....	.....	1	1	1	1	1	1	.....						
Black-and-white W.	23	.....	.....	2	.....	.....	9	6	.....	.....	.....	.....	.....	.....	6	.....	.....					
Orange-crowned W.	14	2	3	2	1	2	2	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cape May Warbler	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Yellow-rumped W.	25823	16300	1248	1998	1543	400	1445	1038	469	374	34	183	45	1	18	4	12							
Yellow-throated W.	7	.....	.....	1	.....	1	2	2	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pine Warbler	622	3	18	37	61	37	180	17	2	3	5	2	37	8	26	26	1							
Prairie Warbler	4	.....	.....	.....	3	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Palm Warbler	66	4	7	5	6	16	5	3	.....	1	2	.....	2	.....	3	.....	.....					
Com. Yellowthroat	129	11	13	9	3	32	27	9	1	.....	3	8	.....	2	2	2	.....						
House Sparrow	5717	25	135	89	30	7	6	73	79	2	62	76	112	56	194	32	11							
E. Meadowlark	4534	119	169	82	45	30	48	212	51	78	20	139	122	43	86	53	67							
Red-wg. Blackbird	392573	429	1769	103636	550	450	766	946	1524	410	16	76	17593	15	393	284	98							
Blackbird (sp. ?)	302415	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Northern Oriole	208	.....	6	3	.....	1	.....	.....	41	2	6	.....	9	24	2	.....	.....					
Rusty Blackbird	716	.....	1	18	1	.....	3	180	.....	.....	7	.....	21	.....	26	75	2	
Brewer's Blackbird	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Boat-tailed Grackle	4783	246	236	3453	99	65	89	575	.....	20	.....	.....	.....	.....	.....	.....	.....
Common Grackle	1022518	24	57	4670	42	150	102	1313	45	437	13	27	195	6	126	138	259							
Brown-hd. Cowbird	231628	1	12	8	27	.....	6	10	40	172	.....	2	200	.....	27	2	5				
Summer Tanager	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cardinal	5075	60	99	121	117	110	209	216	80	13	42	86	81	29	98	76	30							
Rose-br. Grosbeak	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Painted Bunting	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dickcissel	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Evening Grosbeak	47	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	.....	.....	1	.....	.....					
Purple Finch	2077	147	15	19	1	4	13	6	40	12	6	41	.....	12	54	51	12						
House Finch	537	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	2
Pine Grosbeak	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Common Redpoll	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pine Siskin	230	2	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	12	.....	.....					
Am. Goldfinch	2777	65	61	224	75	14	67	60	94	33	9	124	78	24	48	71	7							
Red Crossbill	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ruf.-sided Towhee	2785	104	73	90	49	65	243	81	35	21	15	65	48	42	136	30	8							
Savannah Sparrow	1548	133	173	134	45	125	28	38	26	8	.....	20	.....	62	19	22	37					
Grasshopper Sp.	4	.....	.....	1	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....					
Henslow's Sparrow	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sharp-tailed Sp.	130	14	60	36	2	1	.....	17	.....	.....	.....	.....	.....	.....	.....	.....	.....
Seaside Sparrow	34	3	15	10	.....	4	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Vesper Sparrow	70	.....	.....	2	2	.....	.....	21	.....	.....	.....	1	.....	.....	8	29	.....						
Lark Sparrow	2	.....	1	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bachman's Sparrow	5	.....	.....	2	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dark-eyed Junco	14015	18	129	137	342	17	123	20	447	53	196	203	263	309	124	387	255							
Tree Sparrow	408	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	.....	.....					
Chipping Sparrow	408	3	13	1	10	100	2	24	1	4	11	25	3	4	7	50	1							
Field Sparrow	3476	14	36	62	24	165	5	45	57	5	10	10	41	55	116	151	43							
Harris' Sparrow	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
White-cr. Sparrow	217	11	.....	1	.....	.....	.....	.....	.....	.....	3	.....	.....	.....	1	9	1
White-th. Sparrow	18536	92	166	477	237	97	487	281	220	30	146	264	215	149	315	166	556							
Fox Sparrow	295	13	35	16	5	1	45	6	3	1	.....	.....	.....	13	11	1	.....						
Swamp Sparrow	1461	144	101	211	25	140	152	8	7	9	3	20	16	30	13	23	24							
Song Sparrow	5855	111	120	278	124	94	196	34	30	43	19	40	84	95	72	51	110							
Lapland Longspur	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Snow Bunting	2	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Duck (sp?)	40	.....	40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Accipiter (sp?)	2	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Buteo (sp?)	4	.....	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Falcon (sp. ?)	2	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total no. species	217	153	153	160	142	150	153	147	92	76	60	72	75	78	98	68	10							
Total no. individuals	2946533	84682	21935	158003	12593	12592	19731	20680	8731	4496	1447	4226	21647	3049	6665	3555	3375							
Field observers	695	30	26	28	27	25	51	38	15	11	3	10	12	7	27	11	1							
Yard observers	181	0	6	2	0	1	0	3	0	0	4	0	7	6	2	1	.....						
Field parties	271	9	12	10	7	6	9	0	7	5	2	4	9	4	7	6	.....						
Field hours	2281.3	132	86	96.5	60	54	76	325	53	44	15	30	28.3	27	53	37	.....						
Field-miles by foot	1261	69	32	65	38	31	59	169	15	14	4	67	26	10	44	17	.....						
Field-miles by car, boat	6523.6	80	143	356.6	155	23	188	746	231	257	94	33	92.5	159	192	174	16							

*Seen in count circle during count period but not on count day.

†Included under Blackbird (sp?).



Individuals

*Seen in count circle during count period but not on count day.
†Included under Blackbird (cn2).

COASTAL PLAIN

PIEDMONT

CHRISTMAS BIRD COUNT—1976

HARRY E. LeGRAND JR.

Because of the unseasonably cold weather leading up to the 1976 Christmas Bird Count, and because of the very poor winter finch flight in late 1976 into the Eastern United States, most birders felt that the 1976 Count for the Carolinas would be a poor one both in terms of species and individuals. It is true that most counts fell several below their 1975 totals, as expected, yet the overall results for the 1976 Count were far from being disappointing. A respectable total of 217 species was recorded, five above the 1975 total and ten below the record 227 in 1972.

Perhaps the most important feature of this Count is that 35 counts were received, an all-time high number. This record locality participation has caused a change in the Count policy. It was previously stated (*Chat* 38:54) that only 29 counts could be printed on the count table and that the weaker ones (above the 29 limit) would be printed in paragraph form in the Compilers' Comments' section. Because of the large turnout of counts, Eloise Potter (*Chat* editor) and I have decided to rotate the table 90° so that it now runs across two pages and allows all 35 counts to be published in the table. The table may be slightly more difficult to read, as it runs across the fold down the middle, but we believe that this is the best solution to the problem of space allocation for all counts. Of course, there may come a time in future years when we reach a limit to the number of counts that can be published on the new table, and the weaker counts would then have to be published in the Compilers' Comments section. In addition to the record 35 counts, there were 695 field observers, 181 yard observers, 271 field parties, 2281 field-hours, 1261 foot-miles, and 6523 car/boat miles, all believed to be records for the Christmas Bird Count. Thus, much of the success of this Count, in the face of the elements listed in the opening sentence, was due to the best Count participation ever.

Despite the very cold weather preceding the count period, many counts enjoyed rather mild weather, especially those held on 18-19 December. Very cold weather set in again shortly afterward, and a half-dozen counts had low temperatures in the teens, most notably the 10°F at Roanoke Rapids on 2 January. Fortunately, rain fell on only two counts (McClellanville and Beaufort County); thus, birding conditions were reasonably good on nearly all counts.

None of the seven coastal counts had record-breaking species totals, though five broke 150 species, with Wilmington's 160 leading the way. Three localities that deserve honors for the 1976 Count are Columbia (98 species), Roanoke Rapids (106 species), and especially Raleigh (an all-time inland record of 109 species). Several other inland counts also had record totals, but in general, conditions just were not right for record-breaking species totals.

A surprising number of unusual species were reported, representing a heterogeneous mixture of northern visitors, western strays, and breeding and migrant stragglers. The most unusual sightings were perhaps two western strays: a *Harris' Sparrow* at Tryon and two *Western Grebes* at Wilmington. Even though no alcids were reported and winter finches were in low numbers, far northern species did pay the Carolinas a visit, including *Great Cormorant*, *Common Eider*, *Glaucous Gull*, *Lesser Black-backed Gull*, *Long-eared Owl*, *Pine Grosbeak*, and *Common Redpoll*. Outstanding among the late-lingering breeding and migrant species were *Summer Tanager*, *Rose-breasted Grosbeak*, a *hummingbird* of unknown identity, and an amazing *five Cape May Warblers* at four locations! The *Harris' Sparrow* and *Cape May Warbler* are first records for a Carolina Christmas Count, bringing the cumulative all-time species number on these Counts to 285.

A number of species were in significantly lower numbers than normal, due mainly to the cold weather. Such species include *American Bittern*, *Redhead*, *Greater Scaup*, *Least Sandpiper*, *Marbled Godwit* (only three reported), both species of *marsh wrens*, and *Seaside Sparrow*. Everyone should be aware that the population fluctuations of

Evening Grosbeaks, *Pine Siskins*, and *Red Crossbills* are a function of the cone crop in the boreal forests and are not directly a function of the weather. Presumably a large supply of cones was present in the North this past fall, causing the finches to remain in that part of the continent and not to move south in any numbers. This cycle of food production seems to be biennial (with a few exceptions); thus, we can hope for a good flight of these birds in the fall of 1977. Several species showed noticeable increases: *Yellow-bellied Sapsucker*, *Hermit Thrush* (especially near the coast), *House Finch* (steady increase over the past several winters), and *American Robin* (literally everywhere on many counts). Hawk and vulture populations in the Carolinas in winter may be holding steady or even slightly on the rise. The *Cooper's Hawk* and especially the *Sharp-shinned Hawk* appear to be increasing in numbers. However, it must be remembered that the 1976 Count had record numbers of observers and field-hours; thus, the increased number of birds of prey might simply reflect observer participation and not raptor increases. Also, increases or decreases in species mentioned in this paragraph may be a result of population shifts farther to the south than is normal for most of the species, due to the severe weather. Clearly, marsh-dwelling species were hardest hit by the weather.

A number of noteworthy sightings were rejected because no details were supplied to substantiate them. A few were deleted on sight; others were deleted after I failed to receive details following a request for information. Records deleted were *Red-throated Loon*, four *Blue-winged Teal*, *Little Blue Heron*, and *Spotted Sandpiper*—all inland; four *Rough-legged Hawks* at two localities; four *Broad-winged Hawks* at three locations; three *Swainson's Thrushes* on two counts; two *Gray-cheeked Thrushes* from one count; a *Brewer's Blackbird*; and five *Black-capped Chickadees*. I did not reject, but I do question the validity of, the 25 *Yellow-crowned Night Herons* from one coastal site and 46 *Common Terns* from another. I seriously doubt the validity of most of the 230 *Pine Siskins* from 14 counts; Tryon's 125 are quite unlikely. Neither I nor any of the several dozen competent birders I have talked to in the Carolinas have seen or heard *Pine Siskins* this fall or winter.

Most compilers continue to do a good job of reporting details on unusual species on their counts. A competent compiler will "weed out" sightings of unlikely species reported by inexperienced observers. In fact, several compilers submitted lists of such species that they have rejected, apparently to show me the problems with which they must deal!

COMPILERS' COMMENTS

COAST

BODIE-PEA ISLAND, N.C. (center: 2.7 miles SSE of Bodie Island Lighthouse).

30 December. *Great Cormorant* (many observers) was seen before and after count day, as well as on the day of the count. The immature bird was observed swimming and perched at a pond just N of North Pond on Pea Island. The large bill, yellowish cheek, thick neck, and buff color from chin to mid-breast giving way to white on the lower breast and belly were seen at close range. The two *White Ibises* have been at Pea Island all fall. The immature male *Common Eider* (John Fussell, David Hughes, Ray Winstead) was in Oregon Inlet. Light-phase *Rough-legged Hawk* (Robert Hader party) was seen hovering at North Pond. The *Red Knot* (Harry and Edmund LeGrand) was seen on the beach at Pea Island on 31 December. Tom Smith and the Compiler observed the adult *Glaucous Gull* on a sandbar on the sound side of Pea Island. The gull was all white with a pale gray mantle and was the size of *Great Black-backed Gulls* that were present with it. Adult *Lesser Black-backed Gull* (Dwight and Richard Peake) was in the surf at Bodie Island; mantle slightly paler than that of the *Great Black-backed Gull*, yellow legs and brown feathers around the eye were seen clearly. *Common Tern* (John Crawford, Ken Knapp), in the company of *Forster's Terns*, had a black band behind the head and dark primaries. The 15,000 *American Robins* was al-

most triple the previous high count for this species. *White-eyed Vireo* (Harry LeGrand) was seen and heard scolding at Wanchese, and the pair of *House Finches* (Merrill Lynch) were also at Wanchese. Single *Red Crossbills* were at Wanchese and Pea Island. [Excellent details.—HL]—PAUL W. SYKES JR., P.O. Box 2077, Delray Beach, Florida 33444.

MOREHEAD CITY, N.C. (center: 0.7 mile NW of Crab Point).

22 December. The count was quite successful despite the very cold weather leading up to it. The number of raptors was encouraging. *White Ibises*, which continue to increase in this area, were concentrated by the cold weather onto several shrub islands along the Morehead City-Beaufort causeway. The *Black Rail* was heard at sunset at North River as closely as 20 feet by the Compiler, Sanford Leuba, and Kevin Hints. The rail gave one *kik-kik-kurr* sequence, but otherwise just scolded (a low *kurr-kurr*) in response to tape recorded Black Rail calls. This is believed to be the same individual that has held a territory in this marsh since at least April. The Compiler heard what was thought to be the same individual giving the territorial call at sunset on 10 December. [These and other winter records accumulated over the years suggest that this elusive species is a regular winter resident along the coast of the Carolinas, and not just a late straggler.—HL] Darryl Moffett observed the *Wilson's Plover*, *Long-billed Curlew*, *Whimbrels*, and *Spotted Sandpiper* at Bird Shoal and noted all field marks of each species. Bill Moffitt and Herschel Sessions estimated a conservative 4000 *Laughing Gulls* moving westwardly along Bogue Bank in the morning, apparently a migration in response to the cold weather. A *hummingbird* (not a male Ruby-throated) was seen by Daniel Vaughan as it fed on scarlet honeysuckle at Pine Knoll Shores; the species could not be determined due to the brief 10-second viewing of the bird. *White-eyed Vireo* (Leuba) was heard singing in Croatan National Forest on count day and was seen by the Compiler on 25 December. Charles and Jean Lincoln had seen the *Lark Sparrow* since mid-November; face pattern, white in the tail feathers, and breast spot seen well. Compiler, Moffitt, and Ricky Davis saw two *Whistling Swans* along the Morehead City-Beaufort causeway on 21 December, and one was shot by hunters on North River on count day. Adult male *Painted Bunting* was at the feeder of Mrs. John Griffith at Mansfield Park on 25 December; third straight winter for the species in this area. [Excellent details.—HL]—JOHN O. FUSSELL III, P.O. Box 520, Morehead City, N.C. 28557.

WILMINGTON, N.C. (center: Monkey Junction).

18 December. The count was hampered by the lack of a boat just offshore and the lack of access into Orton Plantation. The two *Western Grebes* (Betty and Lloyd Davis, Pete Roberts, Dot Earle) were seen on the ocean for 20 minutes about two blocks S of Mercer's Pier. They were 150 yards from shore and had long white necks with black on the upper parts of the head, long and slender beaks, and backs that were somewhat speckled. *Green Heron* was seen by Mary Urich. The *jaeger* (John Fussell) was believed to be a Pomarine. Edna Appleberry, Greg Massey, and Harry Latimer observed the *Rough-legged Hawk* between bridges at Wilmington, noting all field marks on the light-phase bird. Fussell also saw the *Common Tern*. The *Long-eared Owl* (Massey) was heard calling a dove-like *coo-coo-coo* in low tones in pine woods at Bradley Hills on Airlie Road. Massey heard the calls in comparison with two Great Horned Owls that were calling in the background, and he has seen and heard Long-eared Owls on numerous occasions. *Black-and-white Warbler* was seen by four birders in a swamp on South Front Street. The adult *White-crowned Sparrow* (Ricky Davis) was carefully watched in the Battleship area, and the *Grasshopper Sparrow* was found by Massey and Latimer. [Excellent details.—HL]—FRANCES NEEDHAM, Box 8207, Wrightsville Beach, N.C. 28480.

LITCHFIELD-PAWLEYS ISLAND, S.C. (center: entrance to North Litchfield Beach on US 17).

19 December. The two *Parasitic Jaegers* (Jeannine Angerman, Evelyn Dabbs,

Dennis Forsythe, Glenn Forsythe) were in a large flock of gulls just off the beach. These four observers saw the *Gull-billed Tern*; the large, black, and short bill, the slightly forked tail, and overall whiter plumage than either Common or Forster's Terns were noted. This party also found the two *Snow Buntings* at Huntington Beach State Park. Barbara and John Lester saw the *Lark Sparrow*. Several species were in much lower numbers than usual, and the failure to find *Bobwhites* was most surprising. [Neat report with good details.—HL]—FREDERICK M. PROBST, Route 2, Box 80-C2, Pawleys Island, S.C. 29585.

McCLELLANVILLE, S.C. (center: 3.5 miles ENE of McClellanville and 0.5 mile S of the Intracoastal Waterway).

26 December. The 2000 *Green-winged Teals* were on the Santee Coastal Preserve. *Northern Oriole* was seen by Brian Cassie and Chuck Whitney, and Perry Nugent observed the *Grasshopper Sparrow*.—JAY SHULER, P.O. Box 288, McClellanville, S.C. 29458.

CHARLESTON, S.C. (center: 14 miles NE of Mt. Pleasant and 0.5 mile N of US 17).

2 January. *Fulvous Whistling-Duck* was seen on Bull's Island by five observers, all very familiar with the species. The *Swainson's Thrush* (Perry Nugent, Pete Laurie, et al.) was feeding in a hackberry tree with several Hermit Thrushes. The latter birds attempted unsuccessfully to drive the Swainson's away. A buff-colored eye ring and cheek, coupled with the absence of rust-colored feathers, helped to identify the bird as a Swainson's. Nugent and party also found the bright red *Summer Tanager*; several previous winter records exist for the Charleston area.—JULIAN R. HARRISON, Biology Department, College of Charleston, Charleston, S.C. 29401

HILTON HEAD ISLAND, S.C. (center: Spanish Wells Landing).

18 December. The *Cattle Egret* was feeding in a grassy field in the golf course area of Sea Pines. The immature *Whistling Swan* (Compiler, Jarvis Depkin) was seen in flight. *Surf Scoters* were in unusually high numbers for this area, but *Black Scoters* have been in very low numbers this fall. [Good details.—HL]—NANCY CATHCART, 129 Dune Lane, Hilton Head Island, S.C. 29928.

COASTAL PLAIN

BEAUFORT COUNTY, N.C. (center: entrance to Upper Goose Creek into Pamlico River).

26 December.—GERALDINE COX, Route 1, Box 151A, Merritt, N.C. 28556.

PAMLICO COUNTY, N.C. (center: in Florence at intersection of 1324 and 1329).

19 December. *Green Heron* (David Morris, Herschel Sessions) is becoming regular in winter and is not really unusual at this season.—GERALDINE COX, address as above.

DILLON COUNTY, S.C. (center: Dillon).

28 December.—JOHN H. WILSON, Box 535, Dillon, S.C. 29536.

FLORENCE, S.C. (center: WOLS Radio Tower, 2 miles NE of Florence).

26 December.—E.C. CLYDE, Effingham, S.C. 29541.

FAYETTEVILLE, N.C. (center: Market Square).

18 December. Though we recorded fewer species as compared with last year, the number of individuals was considerably increased. The Compiler observed the *Merlin*.—PHILIP J. CRUTCHFIELD, 901 Montclair Road, Fayetteville, N.C. 28304.

SOUTHERN PINES, N.C. (center: 1 mile NE of Skyline).

23 December. Birds, especially land birds, were extremely scarce all day. *Yellow-*

rumped Warblers, *American Robins*, *Chipping Sparrows*, and others had amazingly low individual counts; and *Wood Duck*, *Gray Catbird*, and *Brown-headed Cowbird* were completely missed. The weather was cold, though not really bad, and observer coverage was good; so I have no explanation for the poor results. The *Spotted Sandpiper* (Carol Turner) was observed along the margin of a golf course pond at Whispering Pines. *Solitary Vireo* (Frances Needham, J.F. Parnell, Robert Soots) was near Whispering Pines. The large numbers of *Horned Grebes*, *Pied-billed Grebes*, and *American Coots* were unusual; most were at Lake Surf.—J.H. CARTER III, P.O. Box 891, Southern Pines, N.C. 28387.

COLUMBIA, S.C. (center: intersection of Gills Creek and Bluff Road).

18 December. The success of this year's count was due to the excellent organization by Kay Sisson. The *Snow Goose*, *Barn Owl*, and *House Finches* had been seen several weeks before the count. A party was able to census on the Fort Jackson property, an area that had been closed to us in former years. Heavy rains early in December caused the Congaree River to be out of its banks; roundabout routes were necessary to reach the river. Large numbers of *Mourning Doves* and *Ring-billed Gulls* were feeding in fields of unharvested soybeans. The *House Finches* were at the feeder of Mr. and Mrs. B. Randolph Dunlap in downtown Columbia, where the species was seen early in 1976 and returned on 29 October 1976. The three *Tree Sparrows* (Chuck Whitney) were seen in a thicket of blackberry and kudzu at the confluence of the Broad and Saluda Rivers. He observed the dark spot on the otherwise clear breast, rufous crown, dingy-white superciliary line, brown stripe through the eye, and two pronounced wing bars. [A full page of convincing details was received on this remarkable record. Details of several records of Tree Sparrows on previous Christmas and Spring counts have not ruled out all possibilities, especially the Swamp Sparrow, which often has a breast spot.—HL]—GILBERT BRISTOW, 2921 Blossom Street, Columbia, S.C. 29205.

AIKEN, S.C. (center: Coughton, on Highway 215).

26 December. *Grasshopper Sparrow* (Gerald Knighton) was perched on a utility pole wire. All field marks, including the yellow lores and spot on the wing, were clearly seen.—JEANNINE ANGERMAN, 1326 Evans Road, Aiken, S.C. 29801.

ROANOKE RAPIDS, N.C. (center: 1.4 miles SE of Weldon).

2 January. Despite the very cold weather and near absence of winter finches this year, the count was most successful. Diversity and numbers of waterfowl were the highest that I have seen in several winters, due both to the unusually cold weather and the freezing over of many small ponds and marshes in the count circle, concentrating the birds on the larger ponds and Roanoke Rapids Lake. Also, land birds seemed to be feeding more actively than normal, making them more conspicuous. Immature *Whistling Swan* (Tom Haggerty, Elizabeth Carter, Louise Parker) was at Roanoke Rapids Lake. Also at the lake were the two *Greater Scaups* (Paul McQuarry), 12 *Common Goldeneyes* (Compiler, John Crawford, Ricky Davis), four *Oldsquaws* (Compiler, Haggerty), 230 *Hooded Mergansers*, male and two female *Common Mergansers* (Ray Chandler), and two female *Red-breasted Mergansers* (McQuarry). The 1162 *Horned Larks* at Oconeechee Neck were more than twice the number reported on previous counts [This may well represent an all-time count for any time of the year in the Carolinas.—HL]. The adult male *Cape May Warbler* was discovered by Haggerty and later seen by the Compiler. The bird was in a residential area with fairly mature pines, and it associated with kinglets and several other species of warblers. Bright yellow underparts with distinct black streaks running from the throat to the belly, dark brown cheeks with yellow outline, dark cap, streaked back, and lack of tail-wagging were clearly noted. The cold weather caused *White-throated Sparrows* to be more conspicuous this winter; the 5561 total is the all-time high for a Christmas count in North America! [Excellent details, especially for the Cape May Warbler.—HL]—J. MERRILL LYNCH, 539 Henry Street, Roanoke Rapids, N.C. 27870.

PIEDMONT

VANCE COUNTY, N.C. (center: Henderson).

23 December. The high wind and rough water on Kerr Lake reduced the possibility of finding water birds.—NEITA ALLEN, 152 Lake View Drive, Henderson, N.C. 27536.

RALEIGH, N.C. (center: Norfolk and Southern RR crossing on Lake Wheeler Road).

19 December. With a large group of enthusiastic birders and beautiful weather, the Raleigh count set a record with 109 species. [Despite the cold weather beforehand and scarcity of winter finches, this remarkable count was achieved primarily because it gathered together the greatest number of capable and experienced birders ever for any inland Carolina bird count.—HL] Merrill Lynch and John Crawford saw the male *Common Goldeneye*, two female *Oldsquaws*, female *Common Merganser*, and subadult *Herring Gull* at Lake Wheeler. *Spotted Sandpiper* was discovered in early December along the edge of Lake Wheeler by Clark Olson and was found on count day by Ken and Michael Knapp. David Knapp saw the *Short-billed Marsh Wren* and *Grasshopper Sparrow* at Kildaire Farm. The *Orange-crowned Warbler* (Kevin Hints, Bob Walton) was in a brush pile; all field marks were seen. *Henslow's Sparrow* (Dave Lee, Amy and Claude Bittle) was with a flock of Savannah Sparrows near a dry, short grass pasture, and it was seen on a fence with the Savannahs at 50 feet for several minutes. It was smaller than a Savannah, perched more horizontally than that species, had a light brown streak through the center of the crown, thin streaks on the breast and sides, and especially a rusty patch on the shoulder and upper wing. [The lengthy details for the Henslow's Sparrow, submitted by Lee, are not fully convincing, but since he is a careful observer who has studied skins of this species at the N.C. State Museum (where he works), and since the details rule out all other species, I am accepting this sighting as valid.—HL] The *Virginia Rail* responded to a taped call, and the *Fish Crow* was heard by Gwen Turbiville at Cary. Three parties saw the *Solitary Vireos*. A roost of approximately 90,000 *American Robins* was at Cameron Village, and a blackbird roost of nearly one million birds was located near Garner. [Excellent details.—HL]—R.J. HADER, 3313 Cheswick Drive, Raleigh, N.C. 27609.

DURHAM, N.C. (center: 1 mile N and 1 mile E of intersection of Eno River and US 15-501).

19 December. The *Peregrine Falcon* (J.H. Coman Jr., J.H. Coman III) was seen twice in the late afternoon in good light. It was seen perched in a tree and was compared in flight with an American Kestrel, which was only half the size of the Peregrine; the dark sideburns were also seen. Robin Carter found both *House Wrens* and two *Gray Catbirds* near Ellerbe Creek. The third *Gray Catbird* was at a feeder in town. Several observers had flocks of *House Finches*, a species that is steadily increasing in this area. [Excellent details.—HL]—JOHN HORN, Department of Botany, and MARK HUFF, School of Forestry and Environmental Studies, both of Duke University, Durham, N.C. 27706.

CHAPEL HILL, N.C. (center: intersection of Columbia and Franklin Streets in Chapel Hill).

2 January. Our high species count this year can no doubt be ascribed to the greater number of participants than in prior years, as well as more skilled observers. *Peregrine Falcon*, if correctly identified, may have been the same individual as seen earlier on the Durham count. [The lengthy details are adequate though not conclusive, and the failure to mention the sideburns caused the Compiler to question the record.—HL] The *Cape May Warbler* (Pat and Pete Hobson) has been coming to the Hobson's feeder since 10 December. It is an adult male, with the rusty face patch, bright yellow breast with dark streaks, and yellow rump. Several other birders, including the Compiler, have also seen this warbler at the feeder. *Yellow-throated Warbler* was at the

feeder of Ruth and Cora McLean. This bird may well have been one of the two birds that wintered at their feeder last year. Robin Carter saw the *Brewer's Blackbird* at the location (Cates Dairy Farm) where one was seen a week before. He saw it in a tree with Rusty Blackbirds in excellent light; iridescent sheen was seen on the Brewer's. The three *Tree Sparrows* (John Wilson, Rob and Sylvia Berman) were near the shore of Burgess Lake. They were intermediate in size between Field and White-throated Sparrows, had light gray breasts with a large dark spot in the center, wing bars, and no eye ring. Most of the *Turkey Vultures* and *Black Vultures* were at a large roost. The 53 *House Finches* were mainly in two flocks. [Excellent details.—HL]—BARBARA ROTH, 7 Lone Pine Road, Chapel Hill, N.C. 27514.

ROCKINGHAM COUNTY, N.C. (center: Rockingham Community College Student Center).

19 December. *Short-eared Owl* (J.B. McCarthy Jr.) was seen in a marshy area near Reidsville at daybreak. It flew to a tree in response to a Screech Owl tape; it had no ears and was about twice the size of a Screech Owl. As the bird flew away, McCarthy observed the distinctive flight pattern. Bill and Ruth Noonan saw the two *Vesper Sparrows*. *White-breasted Nuthatches* and *Yellow-rumped Warblers* were in unusually low numbers.—EDWARD BURROUGHS, 921 Seymour Court, Eden, N.C. 27288.

GREENSBORO, N.C. (center: Radio Station WBIG transmitter tower).

18 December. The *Cape May Warbler* was seen briefly at Kathryn Lambeth's feeder on 16 December. The number of *American Robins* was several times higher than usual, whereas *Dark-eyed Juncos* were in less than half their usual numbers.—DONALD ALLEN, 2611 David Caldwell Drive, Greensboro, N.C. 27408.

WINSTON-SALEM, N.C. (center: intersection of I-40 and Silas Creek Parkway).

1 January. The *Green Heron* (Royce Hough) has been seen regularly at a private lake in the western part of Forsyth County this winter. Hough and party also saw the *Greater Scaups* at Salem Lake. The six males had rounded heads and bright white sides, and the white wing stripe extending into the primaries was seen clearly. Four birders, including the Compilers, observed the four female *Common Mergansers* on Salem Lake; all field marks were seen. The *Broad-winged Hawk* was carefully observed by Glenys Gallaheer, Ann Listokin, and Peggy Cochrane in a wooded creek area in the western part of the county. They noted the black-and-white striped tail, buffy breast, white underwing, crow size, and buteo shape. It was seen for several minutes as close as 50 feet in excellent light. [The details are not fully convincing, and only the white underwing seems to rule out the Red-shouldered Hawk. I still have not read absolutely convincing details for this species on any of the last three Carolina Christmas counts.—HL] Hough and the Compilers sighted the immature *Common Gallinule* on count day. It was in company with a few ducks and about 80 *American Coots* and had been seen for a month prior to the count. Wayne Irvin saw the *House Wren*. [Excellent details.—HL]—RAMONA R. SNAVELY, 115 Plymouth Avenue, Winston-Salem, N.C. 27104, and FRAN BALDWIN, 1030 Englewood Drive, Winston-Salem, N.C. 27106.

STANLY COUNTY, N.C. (center: 2 miles NW of Badin).

28 December. *Great Egret* (Vera Crook, Ruth Moose) was on the edge of a small pond and was a first winter record for the area. Joe and Joey Ferrebee saw the 11 *Gadwalls* and the two *Oldsquaws* at Badin Lake; distinctive face pattern and pointed tail of the Oldsquaws were noted. The 75 *Bonaparte's Gulls*, also at Badin Lake, were seen in comparison with Herring and Ring-billed Gulls by Terry Hahn, Barrett Crook, and Sandra Earnhardt. The latter trio of observers saw the *Osprey* at Badin Lake. On the count day and for a week afterward, John and Vera Whitlock saw two *Cape May Warblers* in their yard feeding in a large maple; seen later by Com-

piler. The birds had a small yellow ear patch, streaked breast with white undertail coverts, and an olive rump patch. Bessie and Heath Morgan observed the *Dickcissel* at a dairy farm near Albemarle, where it had been seen on other occasions this winter. It had a yellow breast, black bib, rufous wing patch, and was sparrow-sized.—DAVID BURNEY, Route 1, Box 630, New London, N.C. 28127.

IREDELL COUNTY, N.C. (center: South Yadkin River bridge on Chipley Ford Road).

26 December. Because of extreme cold and icy roads, the count was not as profitable as usual. *Common Crows* were in large numbers for the second consecutive Christmas count.—JANE S. MULLEN, 4125 Camelot Drive, A-3, Raleigh, N.C. 27609.

CHARLOTTE, N.C. (center: intersection of South Boulevard and Woodlawn Road).

31 December. The 72 species was the lowest total since 1969, and for the first time in a number of counts the *Wood Duck* was absent. Northern finches were scarce, with no *Evening Grosbeaks* on the count and only several thus far this winter.—BECKY and JOE NORWOOD, 1329 Goodwin Avenue, Charlotte, N.C. 28205.

GREENWOOD COUNTY, S.C. (center: intersection of Routes 246 and 34 in Ninety Six).

18 December. Had the count been held one week earlier, we would have had four or five more species of waterfowl to report from Lake Greenwood. Over 250 *Bonaparte's Gulls* were counted at the lake on 3 December. The 69 *Black Vultures* were at a roost. *Mourning Doves* were entirely missed on the count and are infrequently seen in this area. [Failure to tally a Mourning Dove is horrendous, though 68 species is a respectable total for a two-observer count. The water-bird list also indicates that the larger lakes in the central part of the state (Greenwood, Murray, Marion, and Moultrie) should be birded more frequently than the deplorable coverage they have received in the past.—HL]—BOB and LISA LEWIS, 308 E. Creswell Avenue, Greenwood, S.C. 29646.

GREENVILLE, S.C. (center: Highway 29-291).

30 December.—ROSA LEE HARDIN, Star Route, Cleveland, S.C. 29635.

CLEMSON, S.C. (center: 3 miles W of intersection of US 76 and SC 28 in Pendleton).

30 December. The *Short-billed Marsh Wren* (Adair Tedards and party) was seen within 10 feet in a marshy spot in a pasture. The *House Finches* have been present since November. Most of the large number of *Winter Wrens* were seen in the Eighteenmile Creek drainage.—PAUL HAMEL, Department of Zoology, Clemson University, Clemson, S.C. 29631.

ELKIN-RONDA, N.C. (center: 3 miles N of Elkin at intersection of US 21 and Business US 21).

24 December.—LIN HENDREN, P.O. Box 148, Elkin, N.C. 28621.

CALDWELL COUNTY, N.C. (center: Lenoir).

28 December.—HELEN E. MYERS, 310 Beall Street, Lenoir, N.C. 28645.

MOUNTAINS

TRYON, N.C. (center: Railroad Station).

30 December. Robert and Mary Gibbs saw the adult male *Pine Grosbeak* at their feeder in Fairlane Estates just N of Tryon on 1 January 1977. The field marks were somewhat similar to those of the Purple Finch, with dark wings and tail, but it was about twice the size of a Purple Finch. Both observers have seen the species on pre-

vious occasions in winter in Massachusetts. Robert Gibbs also saw the mature *Harris' Sparrow* a mile NW of Tryon along the border of a cornfield with woodlands. It was approximately the size of a Fox Sparrow; the most conspicuous feature was the black face extending from the upper breast through the face and covering the top of the head.—MARTHA S. FREDERICK, P.O. Box 1254, Tryon, N.C. 28782.

BREVARD, N.C. (center: 5 miles SE of Brevard near Rich Mountain Lookout Tower).

18 December. *Common Goldeneye* (Compiler, Susan Holland) was a male. *Pine Warbler* was seen by Faye and Robert Starr. Lydia Barrett observed the *Tree Sparrow* at the edge of a cornfield; all field marks, including the light-colored lower mandible, were noted.—WALTER C. HOLLAND JR., 290 Maple Street, Brevard, N.C. 28712.

BUNCOMBE COUNTY, N.C. (center: intersection of US 70 and SR 2740 in Swannanoa).

18 December. *Marsh Hawk* (Compiler, Roland Sargent) was in the North Fork area and was the first record for this species on a Christmas count here. The same observers also saw the *Merlin* in the same section of the count circle. They noted the brown back with narrow white bands on the tail, barred breast, and long pointed wings. James Warner identified the 11 *Black-capped Chickadees* by call. The female *Rose-breasted Grosbeak* was seen by Scott Hall in a small wooded area surrounded by a yard on one side and fields on two sides, with a feeder about 50 yards from the sighting. The bird was similar in plumage to a Purple Finch, but it was larger than Eastern Bluebirds that were present for size comparison. It gave the *click* call, and the yellow patches beneath the wings were clearly visible when the bird flew. The *Common Redpoll* was observed on 16 December by Thomas Enright at his feeder; it was a male with red forehead patch, black chin, and pink breast.—ROBERT RUIZ, 300 Wilson Avenue, Swannanoa, N.C. 28778.

GRANDFATHER MOUNTAIN, N.C. (center: junction of Wilson Creek and Avery County road 1514).

30 December. [I am glad to see that the circle has been shifted toward Blowing Rock, to include such good birding areas (in spring and summer) as Trout Lake, Bass Lake, and Price Park. The Alder Flycatcher, for example, has been seen at the bog at Price Park and may breed there.—HL]—MARGERY PLYMIRE, Box 306, Linville, N.C. 28646.

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General Field Notes

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Red-necked Grebe in Buncombe County, N.C.

RICHARD E. PRICE JR.

P.O. Box 146, Mars Hill, N.C. 28754

ROBERT C. RUIZ

300 Wilson Avenue, Swannanoa, N.C. 28778

6 March 1976

On 21 February 1976 Price visited Lake Julian, south of Asheville, Buncombe County, N.C. There he found a female Red-breasted Merganser (*Mergus serrator*) accompanied by a grebe he had never seen before. The bird was observed with a 20X scope in good light at approximately 75 feet. The bill was yellow and was approximately as long as the head of the bird. The chin and throat were white and extended to the side neck and up to near the crown. The neck was a uniform gray with similar coloration on the rest of the body. From this and the general appearance it was concluded that it was a Red-necked Grebe (*Podiceps grisegena*) in winter plumage. Price then called Roland Sargent, president of the local Blue Ridge Bird Club, and both returned to the lake for further study. They were able to judge the size of the bird by comparing it with the merganser. It appeared to be almost the same size, which ruled out the smaller Horned Grebe (*Podiceps auritus*). They returned to Sargent's home and after reviewing his bird books, called Robert Ruiz. Ruiz and Sargent then visited the lake in mid-afternoon and using a 20-45X scope were able to study the bird further and confirm the identification. Ruiz and Bill Duyck returned to the lake on the 22nd to find the grebe still present. After observing it on the water, they were fortunate also to see it in flight, which was decidedly loonlike. The white wing patches showed up in marked contrast to the dark upper parts as it flew to the left, directly toward them, and then veered to the right and disappeared from sight toward the northern end of the lake. Enroute to this area Ruiz and Duyck saw the Red-breasted Merganser again and an adult Ring-billed Gull (*Larus delawarensis*), but because a fog had begun to rise from the lake they were not able to relocate the Red-necked Grebe. According to Ruiz' records, this is the first report of the Red-necked Grebe in western North Carolina. We can only surmise that it may have been blown in on the 18th by a violent storm that had produced the first tornado in Asheville's history.

Early Summer Seabird Migration at Cape Hatteras

J. MERRILL LYNCH

CHRIS MARSH

North Carolina State Museum of Natural History
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8 March 1976

The only published account of a seabird migration witnessed from shore in North Carolina is P.A. Buckley's study near Hatteras Inlet, Dare County, from late May through early June 1970. (*Am. Birds*, 1973, 27:8-10). During a 4-day period he

recorded an estimated 11,000 individuals of nine species, three of which were the first state observations.

We witnessed a seabird migration from shore on 11 June 1975, near Frisco, Cape Hatteras National Seashore, Dare County, approximately 4 miles from the site of Buckley's work. Between 1445 and 1815 EDT, more than 262 individuals of five species were seen flying NE parallel to Hatteras Island at about 100 to 1000 yards from shore. Below is a tabulation of species and individual totals:

Cory's Shearwater (<i>Puffinus diomedea</i>)	100+
Greater Shearwater (<i>Puffinus gravis</i>)	8
Sooty Shearwater (<i>Puffinus griseus</i>)	1
Shearwater sp. (<i>Puffinus</i> sp.) (75-90% probable Cory's)	135+
Wilson's Storm-Petrel (<i>Oceanites oceanicus</i>)	15
Pomarine Jaeger (<i>Stercorarius pomarinus</i>) (light-phase adults)	2
Jaeger sp. (<i>Stercorarius</i> sp.) (light-phase)	1
Total	262+

This occurrence of seabird migration was apparently not related to weather disturbances as there were no storm systems in the area prior to or during our observations. The weather was partly cloudy with no precipitation. A weak cold front passed through the Outer Banks area of about 1700, accompanied by winds from E-NE at 10-20 mph gradually shifting to SE after passage. Buckley (op. cit.) also mentioned the absence of storm systems during his observations.

The magnitude and late date of this seabird migration was surprising. Considered together, our observations and Buckley's sightings (op. cit.) suggest that inshore seabird migration, at least along the Outer Banks during late spring and early summer, may be a regular occurrence.

Harlequin Duck at Carolina Beach, N.C.

RICKY DAVIS

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Zebulon, N.C. 27597

12 June 1975

On 23 March 1975, while scanning a large group of ducks off Fort Fisher near the rock jetty, I spotted a small dark duck sitting on the jetty. Careful observation through the 30X scope showed much white on the head. The sun had just risen and was at my back, but because of the great distance from the bird, I decided to walk the jetty to get a better look to verify identification. By walking down the jetty, I was able to get much closer. This time all the white markings about the head and body were plainly visible and distinct. The bird left the jetty and began swimming near a group of Buffleheads. After 30 minutes of careful study I was positive that this was an adult male Harlequin Duck. After about 30 minutes it flew off toward the end of the jetty and out of viewing range. There were many species of ducks in this area, including Canvasbacks, Redheads, Ring-necks, both Scaup, Bufflehead, Baldpate, Ruddy Ducks, and Red-breasted Mergansers as well as scores of loons and Horned Grebes. This is the eighth published record of the Harlequin Duck in North Carolina and the first since a male and female were seen at Beaufort by Eugene Pond on 13 March 1969 (*Chat* 33:106).

Bar-tailed Godwit on North Carolina Outer Banks

MICOU M. BROWNE

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Raleigh, N.C. 27611

4 August 1975

On 31 August 1971, after passage of tropical storm Doria, I was told that a Bar-tailed Godwit (*Limosa lapponica*) was sighted at the Pea Island National Wildlife Ref-

uge on the Outer Banks of North Carolina by Davis Hues. I first saw the bird at about 0730 on 1 September 1971 on the North Pond with a flock of 9 Hudsonian Godwits (*L. haemastica*). The Bar-tailed was noticeably smaller than the other godwits. The upturned bill and characteristic tail pattern were observed. The flock was very skittish and flew off quickly. I returned at 1130 with Ronald Mobley, and we quickly located the flock of Hudsonians with the Bar-tailed among them. I lost sight of the bird for about 15 minutes, and when I relocated it, it was standing on one leg and preening. The bird was observed from as close as 15 feet on a number of occasions, and was flushed several times, and its field marks (white rump, barred tail, and upturned bill) were clearly seen with 9x35 binoculars. A number of photographs were taken. I am familiar with both the Hudsonian and Marbled Godwits and have examined study skins of the Hudsonian, Marbled, Black-tailed, and Bar-tailed Godwits at the American Museum of Natural History. This report represents the first sight record of the Bar-tailed Godwit for the Carolinas.

[Dept. Ed.—Reports of this species are increasing in eastern North America. With this report and that of Carl Carlson in this issue, the Bar-tailed Godwit can be placed on the North Carolina hypothetical list.]

Bar-tailed Godwit at Pea Island, N.C.

CARL W. CARLSON

5706 Lone Oak Drive

Bethesda, Maryland 20014

23 February 1976

In the late afternoon of 21 September 1975, I drove in at the north end of Pea Island National Wildlife Refuge on the little dirt track about a quarter mile north of the north dyke of the North Impoundment, and parked beside a small, shallow rain-pond to photograph some dowitchers. Suddenly a larger bird landed within 20 feet of me. It was a godwit, but obviously not one of the two "usual" species; so I consulted Peterson's European field guide (Plate 32), which showed that the bird was a Bar-tailed Godwit. The back was much scaler and had a darker tone than does that of the similar Hudsonian Godwit. As I was re-focusing, the bird moved another 20 feet away to deeper water. As it thrust its bill into the water, the bird "tilted" in such a way as to display its tail, which was definitely barred. As it fed, I took three pictures, aiming for the tail; after perhaps 3 minutes, it suddenly flew off towards the impoundment.

I next went to the very north end of the North Impoundment where I found 34 Marbled Godwits and 5 Hudsonians. The Bar-tailed Godwit was not relocated.

[Dept. Ed.—See related article in this issue.]

A Sage Thrasher Specimen for North Carolina

J.H. CARTER III

P.O. Box 891

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15 April 1975

On 19 September 1973, a Sage Thrasher (*Oreoscoptes montanus*) was collected at the Lake Surf development, 4 miles ESE of Vass, Moore County, N.C. The bird was first observed feeding on a golf course near a flock of Pectoral Sandpipers (*Calidris melanotos*) and Buff-breasted Sandpipers (*Tryngites subruficollis*). The golf course was on a series of dikes bordering an 1130-acre lake bed. The lake had not been filled, and its bottom was covered with a wide expanse of mudflats and brush thickets. The thrasher proved to be an adult male, with a fully ossified skull and little subcutaneous fat. The specimen is cataloged as NCSM 4289 at the North Carolina State Museum of Natural History, Raleigh, N.C.

There have been several records of the Sage Thrasher east of the Mississippi River in the last two decades. There is one previous record for North Carolina, a bird seen

on 5 October 1965 in the Bodie Island-Pea Island region of the Outer Banks in northeastern North Carolina (Paul W. Sykes Jr., 1967, M.S. thesis, N.C. State University).

[Dept. Ed.—The placing of this specimen in the N.C. State Museum of Natural History allows the Sage Thrasher to be added to the official list of North Carolina birds.]

Olive-sided Flycatchers in Seneca: A Second Record for South Carolina

PAUL B. HAMEL

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1 April 1977

On the morning of 17 September 1976, I observed two Olive-sided Flycatchers (*Nuttallornis borealis*) for several minutes each in an overgrown field 3.2 km E Seneca, Oconee County, S.C., elevation 270 m. The birds perched at or near the tops of dead shrubs 5 m high. They made long sallies of more than 100 m after insects, flying fast and low over the vegetation. All field marks were noted with 10x50 binoculars from various vantage points 15-30 m from the birds, and a direct size and shape comparison with an Eastern Wood Pewee (*Contopus virens*) was possible when a pewee perched in the same shrub 3 m from one of the Olive-sided Flycatchers for nearly 30 seconds. The *Nuttallornis* was distinct in its larger size, stockier shape, much larger squarer head, longer bill, white median breast stripe contrasting with darker sides, and white wing tufts. Neither *Nuttallornis* called that morning, during which three Eastern Phoebes (*Sayornis phoebe*) and four Eastern Wood Pewees were in the immediate area.

Several days later, 23 September 1976, at 0740, I saw another *N. borealis* 10 m away and 2.5 m up in a bare branch of a pear tree in the same field. During the 30-second observation the angular head and large bill were very apparent, and this time the bird gave a loud somewhat guttural "pip-pip-pip-pip" repeated several times. This may have been one of the birds seen 17 September. On this morning only two other tyrannids were seen, a phoebe and a pewee.

No specimen of the Olive-sided Flycatcher has been taken in South Carolina. The only previous published sight record is that of A.T. Wayne in mid-September of 1904 (Wayne 1910). Olive-sided Flycatchers have been recorded several times in recent years in North Carolina, during spring migration (LeGrand 1974, 1975), summer (Marsh et al. 1974), and fall migration (Holt 1972, Smith 1972, Mulholland 1975, Carter et al. 1976). The fall dates cover the period from early August to late October. I agree with Wayne (1910) that this species may be more common in migration in South Carolina than the published records suggest.

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Sprague's Pipits at Rocky Mount, N.C.

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1 April 1975

On the M.C. Braswell farm 5 miles E of Rocky Mount, on NC 97, I found Sprague's Pipits (*Anthus spragueii*) as follows, all three sightings in the same specific location: 8 birds on 5 January 1975, 4 birds on 26 January, and 12 birds on 9 March.

The straw-colored legs, striped back, and absence of tail-wagging were all clearly evident. The birds were not feeding in short grass as usually reported, but on a well-packed dirt farm road between barbed-wire fence and a field. The area was wind-swept, a favorite condition for Sprague's Pipits. They allowed me to approach within 10 feet, and then flew only a few feet to the grassy field. They did not fly high in the air as often reported, nor did they sing.

The area is a favorite of winter sparrows, and there was an abundance of Field Sparrows, Savannah Sparrows, and White-throated Sparrows as well as up to 18 White-crowned Sparrows this winter. On the third observation, the Sprague's Pipits were in loose association with Water Pipits, so the difference in field marks could be noted.

This appears to be the third published report of Sprague's Pipit in North Carolina. The first observation was by George Smith at Chapel Hill on 9 May 1959 (Chat 23:89). The second report was from Raleigh on 18 March 1972 (Silcock et al. Chat 37:25).

[Dept. Ed.—With the publication of this third observation, Sprague's Pipit can be placed on the official North Carolina list.]

BRIEFS FOR THE FILES

Compiled by ROBERT P. TEULINGS
Route 2, Chapel Hill, N.C. 27514
(All dates 1976)

COMMON LOON: Seven in breeding plumage were seen in Roanoke Sound near Whalebone, N.C., on 14 July by Robert Fleischer. Another in winter plumage was seen in the surf off Pea Island, N.C., 10 August by Robin Carter.

RED-THROATED LOON: One was found inland at Stevenson's Goose pond near Garysburg, N.C., on 6 November by Merrill Lynch.

RED-NECKED GREBE: One was an uncommon find near Nags Head, N.C., on 12 November, observed by Gail Whitehurst.

HORNED GREBE: An impressive inland count of 161 was recorded at Roanoke Rapids Lake in the vicinity of Roanoke Rapids, N.C., on 26 November by Merrill Lynch.

PIED-BILLED GREBE: An early fall visitor was recorded at Chapel Hill, N.C., on 3 September by James Pullman and Elizabeth Teulings.

WHITE-TAILED TROPICBIRD: One was seen offshore 35 miles SSE of Beaufort Inlet, N.C., during a fishing cruise on 24 August by Allyn Powell, as reported by John Fussell.

BROWN PELICAN: An estimated 600 were seen from the Hatteras-Ocracoke, N.C., ferry on 24 September by James Pullman and Elizabeth Teulings.

DOUBLE-CRESTED CORMORANT: An inland visitor was found near Fayetteville, N.C., on 8 May by Phil Crutchfield, Jack Wingate, and Bryan Wingate. At other inland locations, four were seen at Greenwood Lake, Greenwood, S.C., on

- 23 October by Robert and Lisa Lewis; and individuals were noted at Lake Benson near Raleigh, N.C., on 23 October and 6 November by Robert Hader.
- GREAT EGRET:** One was seen flying over MacFayden Lake north of Fayetteville, N.C., on 22 April by Phil Crutchfield. Inland wanderers were also recorded near Leasburg, Caswell County, N.C., on 14 August by James Coman and at Salem Lake near Winston-Salem, N.C., on 29 August by Fran Baldwin and Ramona Snavelly.
- SNOWY EGRET:** An individual was recorded as an uncommon late summer visitor at University Lake near Chapel Hill, N.C., on 21 July by Stanley Alford and Angelo Capparella, and two wanderers were seen at Raleigh, N.C., on 1 September by Kevin Hints and Chris Marsh.
- BLACK-CROWNED NIGHT HERON:** Two were observed near Fayetteville, N.C., on 11 May by Phil Crutchfield.
- GLOSSY IBIS:** A noteworthy count of 115 was recorded 5 September at the light-house pond on Bodie Island, N.C., by Robert Anderson.
- WHITE IBIS:** An unusual western piedmont occurrence was recorded near Townville, S.C., where two immatures were observed on 28 August by Paul Faulk, Sidney Gauthreaux, and Harry LeGrand.
- AMERICAN FLAMINGO:** Two were present from 30 July through 1 August on Morris Island, S.C., near Charleston. The birds were first seen by Ted Ford and Tom Hulsey and later photographed by Pete Laurie.
- ROSEATE SPOONBILL:** Four were seen 11 August at Charleston, S.C., in flight over the Cooper River Bridge by John H. Dick.
- MUTE SWAN:** An individual was found at Bodie Island, N.C., on 25 October by Paul DuMont and party.
- WHISTLING SWAN:** Over 25,000 were present at Mattamuskeet N.W.R. in mid-November, a record count (fide John Roberts).
- SNOW GOOSE:** Three individuals of the blue race were unusual visitors at Clemson, S.C., on 14 October, observed by Sidney Gauthreaux, Pat Gowarty, and Harry LeGrand.
- BLUE-WINGED TEAL:** Seven early migrants were seen near Frisco, N.C., on 15 August by Joe Hudick.
- PINTAIL:** An impressive fall count of 7100 was recorded at Pea Island N.W.R. on 30 October by Tom Smith, Assistant Refuge Manager.
- EUROPEAN WIGEON:** A male was present at Bodie Island, N.C., lighthouse pond on 13 November, observed by Charles Frost.
- REDHEAD:** An unusual inland count on 118 was recorded at Lake Greenwood near Greenwood, S.C., on 9 November by Robert and Lisa Lewis.
- OLDSQUAW:** A lone migrant was an uncommon inland visitor at Umstead State Park near Raleigh, N.C., on 18 November, reported by Bill and Margaret Wagner.
- SURF SCOTER:** One was an unexpected inland visitor at Lake Hartwell near Clemson, S.C., on 27 November, observed by Harry LeGrand. Another inland occurrence was recorded in the Raleigh, N.C., area where an individual was found at Lake Wheeler on 11 December and later collected (specimen to the State Museum of Natural History, fide David Lee).
- BLACK SCOTER:** Fifteen were present, along with a Surf Scoter noted above, at Lake Hartwell near Clemson on 27 October, Harry LeGrand.
- HOODED MERGANSER:** An unusually high count of 184 was recorded at Roanoke Rapids Lake near Roanoke Rapids, N.C., on 25 November by Merrill Lynch.
- COMMON MERGANSER:** An individual was seen at Lake Greenwood near Greenwood, S.C., on 28 November by Robert and Lisa Lewis. This species is generally uncommon in the Carolinas.

- RED-BREASTED MERGANSER:** Robert and Lisa Lewis counted 173 at Lake Greenwood near Greenwood, S.C., on 9 November.
- SWALLOW-TAILED KITE:** One was an unexpected and lingering visitor in the New London, N.C., area 31 August through 20 September, fide David Burney.
- MISSISSIPPI KITE:** One was seen soaring over the Clemson University campus in South Carolina's western piedmont on 20 September by Harry LeGrand. Two were also seen over New Topsail Beach, N.C., on 10 October by Gail and David Whitehurst.
- BROAD-WINGED HAWK:** A flight of 350 was observed at Pilot Mountain, Surry County, N.C., on 30 October by Royce Hough.
- ROUGH-LEGGED HAWK:** One was seen at North River marsh near Morehead City, N.C., on 25 September by Tom Quay and his ornithology class. Another was reported at Pea Island N.W.R. on 30 November, fide N.F. Williamson.
- BALD EAGLE:** An adult was seen at Roanoke Rapids Lake near Vulture, N.C., on 1 August by Merrill Lynch. At Lake Hartwell near Clemson, S.C., an adult was observed by Harry LeGrand and an immature was later seen there on 11 October by Sidney Gauthreaux and Paul Hamel.
- PEREGRINE FALCON:** Fall migrants were seen in noteworthy numbers at Pea Island N.W.R. where at least 32 sightings were recorded during September and October, fide N.F. Williamson. A total of five inland sightings also were reported. All but a few of the birds seen were immatures.
- COMMON GALLINULE:** Individuals were recorded as uncommon fall visitors inland near Townville, S.C., on 31 August and at Clemson on 30 October by Harry LeGrand. Two migrants were seen at North Wilkesboro, N.C., on 21 August by Wendell Smith.
- SEMIPALMATED PLOVER:** An early fall visitor was recorded at Raleigh, N.C., on 5 August by Jim Mulholland. Several other inland occurrences of fall migrants were reported later from Chapel Hill, Winston-Salem, and Clemson between mid-August and late September.
- AMERICAN GOLDEN PLOVER:** Six were found near Sumter, S.C., on 10 November by Barbara Bolton and Evelyn Dabbs. Elsewhere three were recorded as rare inland visitors at Townville, S.C., on 27 September by Harry LeGrand; and another individual was present at Raleigh, 2-3 October, observed by Jim Mulholland, Clark Olson, and Clyde Smith.
- BLACK-BELLIED PLOVER:** Sue Moore and Barbara Page reported one present on 2-3 September at Winston-Salem, N.C.; and four were seen at Lake Hartwell near Clemson, S.C., on 17 October by Harry LeGrand.
- LONG-BILLED CURLEW:** A single bird was found at Hatteras Inlet on the North Carolina Outer Banks on 8 September by Floy Burford and Gisela Grimm, and another at Pea Island N.W.R. on 27 October, fide N.F. Williamson. One was also seen near Morehead City, N.C., at Bird Shoal on 19 September by John Fussell.
- UPLAND SANDPIPER:** A coastal migrant was seen 6 September at Kitty Hawk, N.C., by Mike Boatwright and Ray Chandler. An inland visitor was seen near Pendleton, S.C., on 2 September by Sidney Gauthreaux, a first record for that locality.
- PECTORAL SANDPIPER:** An inland flock of 45 was found near Pendleton, S.C., on 9 October by Harry LeGrand. At Winston-Salem, N.C., a late migrant was present at the city sewage treatment plant on 27 November, observed by Pat Culbertson.
- BAIRD'S SANDPIPER:** One was seen at Clemson, S.C., on 28-29 August by Sidney Gauthreaux, a first local record for this uncommon species. Several more were seen in the same area in late September and early October by Harry LeGrand. Inland migrants were recorded also at Raleigh, N.C., where three were seen at Green-

view Farm on 5 October by Robert Hader and four at the same location on 13 October by Tom Howard. On the coast one was well seen at Bodie Island, N.C., on 4 September by Mike Boatwright, Ray Chandler, and Bob Fletcher; and another was found at Fort Macon near Atlantic Beach, N.C., on 28 September by John Fussell.

DUNLIN: A good inland count of 12 was recorded at Lake Hartwell near Clemson, S.C., on 17 October by Harry LeGrand.

SHORT-BILLED DOWITCHER: Inland migrants were present in the Clemson, S.C., area between 7 August and 3 September with a peak count of four noted on 29 August by Harry LeGrand. At other inland locations single birds were seen in Franklin County, N.C., on 16 and 19 August by Eloise Potter and at Raleigh, N.C., on 15 August by Jim Mulholland.

STILT SANDPIPER: One was seen on 29 August at Clemson and another on 27 September near Townville, S.C., by Harry LeGrand.

BUFF-BREASTED SANDPIPER: Outer Banks sightings of single birds were noted at Frisco, N.C., on 14 August and at Cape Point, Hatteras Island, on 30 August by Joe Hudick. Two coastal migrants were seen at Charleston, S.C., on 13 September by Pete Laurie and Perry Nugent. Inland one was found at Pendleton, S.C., on 2 September by Sidney Gauthreaux and Frank Moore, a first local record.

MARbled GODWIT: An unusual summer sighting was recorded on 15 July at Oregon Inlet on the North Carolina Outer Banks by Morgan Jones.

HUDSONIAN GODWIT: An early fall visitor was seen at Pea Island N.W.R. on 10 August by Robin Carter. Observers later reported up to four present there through early October, and another was seen at Bodie Island lighthouse pond on 11 September by Kevin Hints, Edmund LeGrand, and Chris Marsh.

SANDERLING: A rare inland occurrence was reported from Winston-Salem, N.C., where three birds were seen on 7 October by Charles Frost, Ramona Snively, and Robert Witherington.

AMERICAN AVOCET: A vagrant was found inland near Sumter, S.C., on 7 October by Evelyn Dabbs.

LESSER BLACK-BACKED GULL: One was well studied at Long Beach, N.C., on 28 September by Jean McCoy and party, the first reported occurrence of this species south of the Outer Banks.

BLACK-LEGGED KITTIWAKE: An immature was seen over the surf at Nags Head, N.C., on 18 November by Harry and Ramona Snively.

COMMON TERN: An unusual inland count of 18 was recorded at Salem Lake near Winston-Salem, N.C., on 9 October by Charles Frost.

CASPIAN TERN: One was seen at Forest Lake, Fayetteville, N.C., on 4 May by Phil Crutchfield and Henry Rankin, a rare inland spring record. In the Winston-Salem area, two fall transients were seen at Salem Lake on 29 August by Fran Baldwin and Ramona Snively and four at Belews Creek Lake on 30 September by Pat Culbertson. An inland visitor also was seen at Clemson, S.C., on 22 August by Paul Faulk and Harry LeGrand.

BLACK TERN: A flock of 100 was seen at Morris Island near Charleston, S.C., on 1 August by Pete Laurie.

WHITE-WINGED DOVE: A vagrant individual was seen at Buxton, N.C., on 26 November by Joe Hudick. The bird remained in the area for nearly a week.

GROUND DOVE: A first record for Wake County, N.C., was reported by Jeanne Halsey, who found an individual of this species near Raleigh on 12 September.

GRAY KINGBIRD: One was seen on 7 August in Berkely County, S.C., near Lake Moultrie by P.J. Crutchfield and T.C. Crutchfield. Another was seen on 26 September at Kiawah Island, S.C., by Edmund Farrar.

OLIVE-SIDED FLYCATCHER: One was an uncommon fall transient at Winston-

- Salem, N.C., observed on 17 August by Kevin Hintsä.
- BEWICK'S WREN:** One was a good find at Greenwood State Park near Greenwood, S.C., on 26 October by Robert and Lisa Lewis.
- PHILADELPHIA VIREO:** Fall transients made a good showing at Hillsborough, N.C., where six sightings were recorded between 22 August and 13 September by James Coman III. One was also seen by Mr. Coman near Leasburg in Caswell County, N.C., on 7 September. At Clemson, S.C., a rather late individual was noted on 15 October by Harry LeGrand. Coastal observations of single birds were noted at Mt. Pleasant, S.C., on 28 August by Edmund Farrar and C.J. Geilfuss III, and at Bodie Island, N.C., on 4 September by Clark Olson.
- WARBLING VIREO:** One was recorded as a very rare coastal transient at Charleston, S.C., on 29 August by Perry Nugent.
- BLUE-WINGED WARBLER:** A late individual was seen near Sumter, S.C., on 24 November by Wayne and Barbara Bolton.
- BREWSTER'S WARBLER:** An individual of this hybrid form was seen at Raleigh, N.C., on 11 September by Clark Olson.
- ORANGE-CROWNED WARBLER:** A late straggler was seen at Clemson, S.C., on 13 November by Harry LeGrand.
- NASHVILLE WARBLER:** Occurrences of this traditionally uncommon migrant were up significantly in the Clemson area according to Harry LeGrand who recorded nine sightings between 18 September and 29 October. Observers also reported fall sightings from Chapel Hill, Durham, Greenwood (S.C.), Morehead City, Raleigh, and Winston-Salem.
- CONNECTICUT WARBLER:** Single transients were recorded at Raleigh, N.C., on 25 September by Clark Olson, and at Reynolda Park, Winston-Salem, N.C., on 22 September by Fran Baldwin and party.
- YELLOW-HEADED BLACKBIRD:** A female was observed at Raleigh, N.C., on 19 September by Robert Hader.
- WESTERN Tanager:** An individual in female plumage was an unusual visitor at Aiken, S.C., closely studied in Hitchcock Woods on 4 October by John Hatcher.
- PAINTED BUNTING:** A wandering female was found well out of normal range at Raleigh, N.C., on 1 August by Jim Mulholland.
- HOUSE FINCH:** A 29 August observation of a female was recorded at the Raleigh, N.C., Rose Garden by Kevin Hintsä.
- PURPLE FINCH:** Three were present at Reidsville, N.C., as early as 23 September, reported by Mrs. Larry Yount.
- GRASSHOPPER SPARROW:** Two were seen near Townville, S.C., on 7 November by Sidney Gauthreaux and Harry LeGrand.
- SHARP-TAILED SPARROW:** One was a surprising find in Watauga County, N.C., near Boone on 25 October by Tom Haggerty.
- LARK SPARROW:** One was seen at Orton Pond near Wilmington, N.C., on 11 September by Ricky Davis. Another was recorded at Pea Island, N.C., on 22 September by James Pullman and Elizabeth Teulings.
- BACHMAN'S SPARROW:** A good count of six was recorded at Fort Fisher, N.C., on 4 October by Ricky Davis.
- DARK-EYED JUNCO:** Early arrival of winter visitors was noted on 19 September at Reidsville, N.C., fide Ed Burroughs.
- CLAY-COLORED SPARROW:** A well-marked adult was seen on 4 October at Fort Fisher, N.C., by Ricky Davis. Individuals also were recorded on the Outer Banks by Paul DuMont at Ocracoke Island, N.C., on 11 October and at the Hatteras Island ferry landing on 24 October.

(Continued on Page 23)



MEMBERSHIP

Carolina Bird Club, Inc., is a non-profit educational and scientific association founded in March 1937 and open to anyone interested in the study and conservation of wildlife, particularly birds. Dues, contributions, and bequests to the club are deductible from State and Federal income and estate taxes. Checks should be made payable to Carolina Bird Club, Inc., and sent to CBC Headquarters, P.O. Box 1220, Tryon, N.C. 28782.

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All CBC members not in arrears for dues receive *The Chat*, a quarterly journal devoted to bird study and conservation, and the *CBC Newsletter*, which carries information about meetings, field trips, and club projects. Articles intended for publication in *Chat* may be sent to the Editor or to the appropriate department editor listed in a recent issue of the bulletin. Items for the *Newsletter* should be sent to its Editor, F.M. Probst, Route 2, Box 80-C2, Pawley's Island, S.C. 29585. Correspondence regarding memberships, changes of address, or requests for back numbers of either publication should be sent to CBC Headquarters, P.O. Box 1220, Tryon, N.C. 28782.

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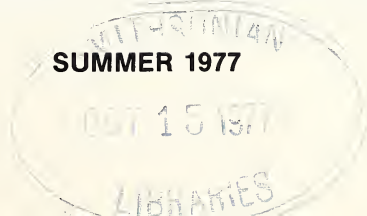
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OUR COVER—An adult Pileated Woodpecker approaches an obviously active nest in a dead live oak at Fairlawn Plantation, Charleston County, S.C. The photograph is copyrighted by Walter Dawn of Woodside, New York.

WE MUST ECONOMIZE

New Policies for Bird Counts

Some state ornithological journals do not have a sufficient amount of publishable material, and others have ceased or at least sharply curtailed publication for lack of funds. We do not want to find *Chat* in either position. At present we have an abundance of excellent manuscripts, and Carolina Bird Club had no serious deficit in 1976. Recent sharp rises in printing costs, however, made it necessary for the editors to review our publication policies. This was done in consultation with CBC President Barbara Lee.

Approximately one-third of the pages in *Chat* are devoted to the Christmas and Spring Bird Counts. Thanks to many years of successful bird counts, winter and spring distribution are the two best known aspects of bird life in the Carolinas. The amount of new information obtained each year is no longer sufficient to justify the \$45-per-page cost of publication in the present format. The count tables have become prohibitively expensive. Yet both counts build club spirit and provide good fellowship for bird watchers. Some of the birds seen are truly significant. We certainly do not advocate discontinuance of the bird counts.

Because the Christmas Count is almost entirely a duplication of material that appears in *American Birds*, *Chat* will no longer publish this count, not even in summary format. Local compilers who are not presently submitting reports to both journals are advised to obtain instructions immediately from Christmas Bird Count, American Birds, 950 Third Avenue, New York, N.Y. 10022. *American Birds* charges a fee of \$1 per participant. Subscriptions to this excellent magazine are available from the above address at the rate of \$10 for one year, \$18 for two years. In addition to the regional reports and the Christmas Bird Count issue, the journal has many color pictures and features of general interest to bird students.

The Spring Bird Count is strictly a Carolina Bird Club project. We will continue to send out the count forms and to compile the table, which will be placed in the files of the CBC Records Committee. In the future only a summary of the Spring Bird Count will appear in *Chat*.

By saying that the distribution of birds during the winter and spring seasons is well known for the Carolinas, we do not mean to imply that we know everything that needs to be known about the bird life of the region. We strongly urge individual observers to send full details on any rare species found on a Christmas Bird Count to the editors of *Chat*, being sure to mention that it was seen on the count day or during the count period. As a rule, all first, second, or third records for the state should go to the General Field Notes Editor (with full details) while subsequent sightings may go to him or to the Briefs for the Files Editor, depending upon the significance of the occurrence.

Economizing on the publication of the bird counts should enable CBC to continue publishing scientific papers and notes without charge to authors. Many professional biologists can obtain funds for page costs through the institutions financing their research. When such funds are available, we should greatly appreciate their being paid voluntarily at the rate stated on the masthead of the current issue of *Chat*. Headquarters Secretary Betty Paterson will furnish a bill upon request.

The editors of *Chat* hope to maintain high standards for the journal without making it necessary for CBC to raise dues; but with the continuing inflation, a future increase seems inevitable unless the club experiences a remarkable growth in membership. The chief expense in publishing *Chat* is setting the type. We could print twice as many copies and mail them to twice as many members at only a modest increase in the overall annual budget.

CBC should be growing. The population of the Carolinas has increased greatly during the past 25 years, but CBC membership has remained about the same. Public awareness of the need for wildlife protection and conservation of natural resources is

better than ever before, but CBC does not seem to benefit from it. There must be hundreds of potential members who simply do not know that the club exists. If you really care about the future of CBC, now is the time to do whatever you can to publicize the club and enroll new members. Please remember that our best publicity is your own personal enthusiasm for bird study when shared with friends, neighbors, and the young people of your community.—EFP

A REAL NEED

Breeding Bird Studies

At the spring CBC meeting in Winston-Salem, Chan Robbins of the U.S. Fish and Wildlife Service explained the Breeding Bird Survey, a series of nationwide roadside censuses made annually and mostly by volunteers. Across the country as well as right here in the Carolinas, the least well known aspects of bird life are the distribution, both ecological and geographical, and the relative abundance of species during the nesting season.

A project to census the birds nesting in certain State Parks is underway in South Carolina, and a report on the 1977 season has been offered for publication in *Chat*. This study provides a useful sampling of breeding birds from all sections of the state.

It would be helpful if museums and natural history clubs would sponsor annual breeding bird forays to census a different place each June. When announced in advance through the CBC Newsletter, these forays should attract capable bird students from a wide area.

Local clubs also could sponsor the compiling of breeding records for the county. Even for many common species we need information such as early and late egg dates, clutch size, nest construction, habitat preference, number of broods, care of young, and frequency of cowbird parasitism.

Much useful data can be gathered by one dedicated bird watcher. We urge individuals to list all birds seen within a given area from 1 to 25 June, dates that should exclude most late migrants and early post-breeding wanderers. This could be a long-range project for one county, state or national park, or state or national forest. On the other hand, it could be a one-shot list from a vacation spot. A bare list of species and dates seen from a county that has almost no published ornithological records might contain some real surprises.

Please send lists of breeding birds to Eloise F. Potter, Route 3, Box 114 AA, Zebulon, N.C. 27597. (Reports should be submitted on or before 1 December. While unsupported lists of birds must be limited to the 1-25 June period, adequately documented nesting records obtained before or after these dates can and should be included.) BBS route data can be used, but please make a separate list for each county along the route. (Birds do not respect political boundaries, but editors do.)

This is an experiment. In time CBC may have organized breeding bird surveys with forms to simplify the recording of data, but at present we shall have to rely upon the ingenuity and sound judgment of individual bird students and group leaders. The format for publication and the number of years the project will continue must be determined by the extent of coverage. Several friends have predicted that the response will be very poor. "People just don't go birding after the first of June," they tell me. "The heat, ticks, and poison ivy are too much for 'em." That may be so, but I'm betting that CBC members are not that easily discouraged. Anyone who sends *Chat* a breeding bird list can be sure it will be sincerely appreciated by one who knows from experience the hazards of June field work.—EFP

STATUS OF SNOW BUNTINGS WINTERING IN THE SOUTHEAST

MICOU M. BROWNE

The winter range of the Snow Bunting (*Plectrophenax nivalis*) in the eastern United States is described in the fifth edition of the AOU Check-list (1957) as south to "... southern Indiana (Bloomington), Ohio, Pennsylvania, Maryland, Virginia, and on the Atlantic coast casually to Georgia." No records are mentioned from Florida or from inland portions of the Carolinas and Georgia. In reviewing the status of Snow Buntings wintering in the southeast, I examined all known records through the winter of 1974-75 (Table 1). The great majority of the approximately 120 reported sightings occurred during the last 20 years.

WINTER HABITAT

In winter the Snow Bunting often occupies the harsh environment of snow-covered grasslands. It is able to gather food by gleaning seeds exposed by the wind. Martin, Zim, and Nelson (1951) report that the winter diet of 408 birds in the northeast consisted of such plants species of bristleglass, ragweed, pigweed, sandgrass, goosefoot, oats, beachgrass, and other grasses.

In the Carolinas, Georgia, and Florida the Snow Bunting winters in two widely separated and ecologically distinct habitats. On the east coast it frequents short-grass areas and open beach dunes, habitats similar to those occupied farther north. In the mountains of North Carolina it winters on grassy balds above 5000 feet in elevation. See Wells (1967) for full descriptions of these habitats.

NORTH CAROLINA

Pearson et al. (1942) state that, with the exception of two records from White Lake and Clarkton in Bladen County, all sightings of Snow Buntings in North Carolina have been "from the immediate neighborhood of the sea or the adjacent salt-water sounds." Subsequent records from Moore, Cumberland, Chatham, Surry, Orange, Polk, Madison, Mitchell, and Avery Counties leave no doubt, however, that the Snow Bunting is more than an accidental visitor to the inland portions of the state.

Coast. The Snow Bunting was first recorded in North Carolina on the basis of three birds collected at Pea Island on 14 February 1901 (Bishop 1901). From then until the mid-1930s there were only a few scattered records of single birds, including an exhausted individual seen and captured 4 miles offshore on 16 November 1923 (Coles 1924). The first recorded major flight of Snow Buntings into coastal North Carolina occurred when two flocks totaling at least 150 birds were seen at Kitty Hawk on 25 January 1937 (Cottam 1937). Large numbers of Snow Buntings also visited North Carolina in the winters of 1939-40, 1969-70, and 1974-75 (Table 1). To date, no major flock has been seen on the Carolina coast south of Cape Lookout, but the presence of 1 to 18 Snow Buntings in the Cape Fear area during several recent winters (Table 1) suggests that the species may be relatively common there.

Coastal Plain and Piedmont. Snow Buntings tend to occur more frequently in the Sandhills than in other inland sections of the coastal plain and piedmont (Fig. 1). The only large inland flock was seen at Pinehurst on 3 February 1940 during a winter season that also brought many Snow Buntings to Pea Island and Beaufort (Table 1). The five piedmont records are from Elkin, Pittsboro, Chapel Hill, Kerr Lake, and Lake Gaston. The Elkin sighting of 2 April 1953 is open to question because the observers stated that the bird "appeared to be a Snow Bunting" (Chamberlain 1954). This expression of doubt would make the record unacceptable were it not for the well-documented sighting of the species at Pittsboro on 25 and 29 April 1953 (Hearne 1953). The only other April record for the state is one bird seen at Fayetteville 20-27 April 1963 (Shaw 1963). Perhaps these spring records in central North Carolina represent coastal winter visitors headed north. A Chapel Hill

Table 1. Snow Bunting records for North and South Carolina, 1900-1975.

Winter	North Carolina coast and sounds	North Carolina coastal plain and piedmont	North Carolina mountains	South Carolina
1900-01	3, Pea Is., 14 Feb.	—	—	—
1917-18	1, Oriental, 26 Jan.	—	—	—
1923-24	1, offshore, 16 Nov.	—	—	—
1926-27	—	—	—	1, Mt. Pleasant, 14-15 Nov.
1930-31	—	—	—	3, Charleston, 12 Nov. 8, Morris Is., 21 Dec.
1934-35	1, Lake Mattamuskeet, 2 Dec. and 7 Jan.	1, White Lake, 23 Jan., and later	—	—
1936-37	150, Kitty Hawk, 25 Jan.	—	—	1, Sullivan's Is., 21 and 25 June
1937-38	4, Hatteras Is., 14 Jan.	—	—	—
1938-39	4, Pea Is., 28 Nov.	—	—	—
1939-40	6, Atlantic, 23 and 25 Nov. 30, Pea Is., 27 Nov. several, Pea Is., 8 Jan. 75, Beaufort, 11 Dec.	20+, Pinehurst, 3 Feb. 2, Clarkton, 4 Feb.	—	—
1943-44	—	1, Southern Pines, 27 Feb.	—	—
1952-53	—	1, Elkin, 2 Apr. 4, Pittsboro, 25 and 29 Apr.	—	—
1953-54	—	—	1, Big Bald, 29 Nov.-14 Feb. 3, Tryon, 24 Mar.	—
1954-55	—	—	1-3, Big Bald, 7 Nov.-22 Feb. 10-14, Round Bald, 20 Nov.- 26 Feb. 1, Grassy Ridge Bald, 1 Jan.	1, Charleston, 17 Dec.-14 Jan.
1955-56	—	—	1, Round Bald, 10 Dec.-22 Jan.	—
1956-57	—	—	1-2, Big Bald, 17 Nov.-17 Feb. 1-2, Round Bald, 18 Nov.	—

1957-58	—	—	1, John's Is., 14 Jan.
1958-59	1, Topsail Beach, 31 Oct.	—	—
1959-60	6, Long Beach, 21 Dec.	—	—
1960-61	6, Long Beach, 21 Dec. flock, Bodie Is., 26 Jan.	—	—
1961-62	20, near Avon, 25 Nov.	—	—
1962-63	—	1, Fayetteville, 20-27 Apr.	—
1964-65	5, Ocracoke, 10 Nov.	—	—
1965-66	1, Pea Is., 28 Dec. 1, Wilmington, 30 Dec.	—	—
1966-67	1, Pea Is., 1 Jan.	4, Kerr Lake, 28 Dec.	1, Summerville, 24 Nov.-3 Dec.
1967-68	24, Emerald Is., 4 Feb.	—	6, Murrell's Inlet, 24 Nov.
1969-70	1, Ocracoke, 2 Nov. 30, Pea Is., 3 Nov. 30, Oregon Inlet, 4 Nov. 18, Wrightsville Beach, 5 Nov. 25, Beaufort, 13 Dec. 20, Ft. Macon, 21 Dec. 12, Ocracoke, 28 Feb.	—	—
1970-71	3, Oregon Inlet, 30 Dec. 1, Sunset Beach, 27 Feb.	—	—
1971-72	2, Wrightsville Beach, 17 Nov.	—	2, Murrell's Inlet, 29 Dec.
1972-73	—	—	1, Charleston, 25 Feb.
1973-74	1, Cedar Is., 10 Nov. 1, Wrightsville Beach, 15 Nov. 2, Hatteras Is., 18 Nov. 2, Pea Is., 22 Nov. 4, Radio Is., Morehead, 27 Dec.	1, Gaston, 1 Dec.	—
1974-75	30, Ocracoke, 30 Nov.	1, Chapel Hill, 23 Oct.	1, McClellanville, 23 Oct.-early Nov.

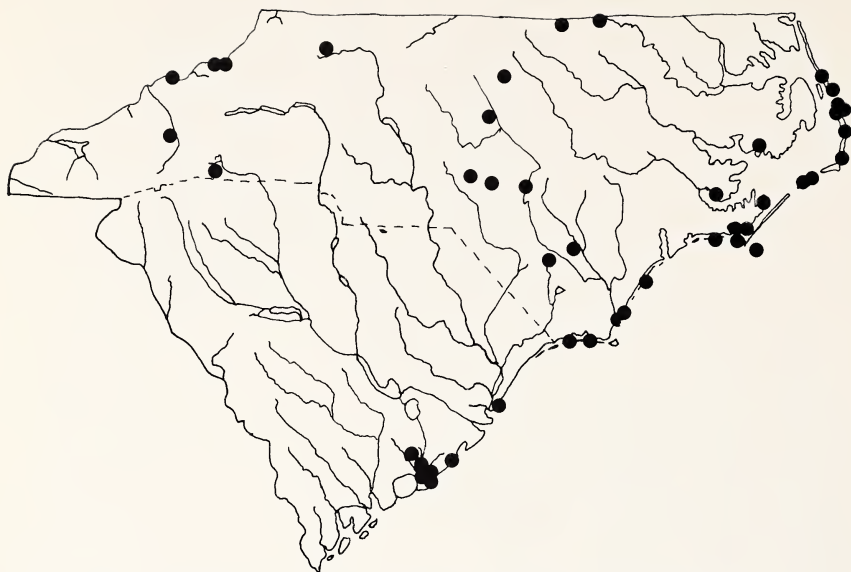


Fig. 1. Map of Snow Bunting localities in North and South Carolina.

record of 23 October 1974 is the earliest fall record for the state and should be considered a transient (Teulings 1975).

Mountains. Almost all Snow Bunting records for the North Carolina mountains are from two peaks, Big Bald and Round Bald. Big Bald Mountain (5500 feet) is located on the line between Unicoi County, Tennessee, and Madison County, N.C. Fred W. Behrend noted the Snow Bunting from the North Carolina side of this mountain on 11 occasions between 1953 and 1957, having found the species present in four out of the five consecutive winters (Table 1). Round Bald Mountain (5800 feet) is on the line between Carter County, Tenn., and Mitchell County, N.C. Behrend recorded the Snow Bunting there 18 times between 1954 and 1962, during seven of the nine consecutive winters (Table 1). Behrend (pers. com.) considers the buntings to be regular winter residents of Big Bald and Round Bald.

The only Snow Bunting record for the Great Smoky Mountains National Park is that of a flock of eight birds found on 22 December 1957 at Spence Field Bald (Stupka 1963). Spence Field Bald, one of the largest and finest Canadian zone heath balds in the southern Appalachians, lies astride the North Carolina-Tennessee line just west of Thunderhead.

Mrs. C.E. Demick saw three Snow Buntings at Tryon, Polk County, N.C., on 24 March 1954 (Chamberlain 1954). To my knowledge, this is the southernmost sighting of the species in the Appalachian Mountains. A record of 100 Snow Buntings reported from Asheville on 28 December 1946 (Shaftesbury 1947) is not included in Table 1 or on the maps because sufficient details are lacking.

SOUTH CAROLINA

The Snow Bunting appears to be a casual winter visitor in the coastal region of South Carolina. The bird was first noted in the state on 14 November 1926 when Alexander Sprunt Jr. saw one 15 miles N of Mt. Pleasant, Charleston County. He returned the following day and collected the bird for the Charleston Museum (Sprunt 1927). One of the six additional records for the Charleston area deserves special comment. On 21 June 1937,

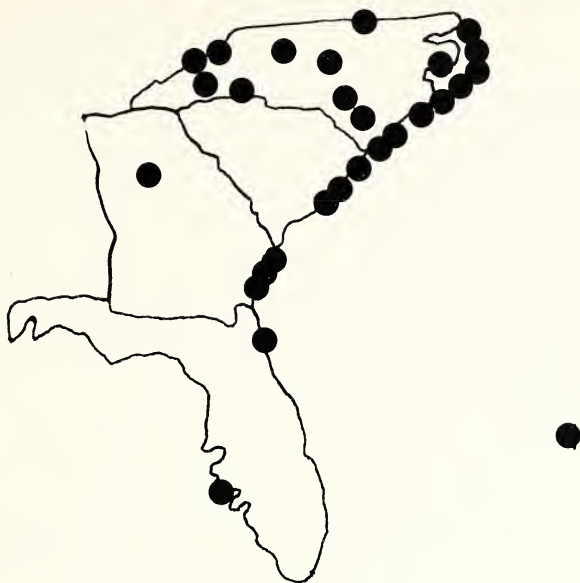


Fig. 2. Map of Snow Bunting localities in the Southeast.

Edward von S. Dingle and his wife saw a male Snow Bunting in breeding plumage at the north end of Sullivan's Island. The same bird was seen again on 25 June, and recognizable photographs were taken (Dingle 1938).

The only inland South Carolina record for the Snow Bunting is a single bird found approximately 30 miles from the coast, slightly NW of Charleston, at Summerville, Dorchester County, on 24 November 1966. The bird remained at least 10 days and was seen by several reliable observers (Sprunt and Chamberlain 1970).

On 24 November 1967, I saw six Snow Buntings at the northern shore of Murrell's Inlet, Horry County; but I could not locate the birds again the following day. Participants in the first Christmas Bird Count for the Litchfield-Pawley's Island area found two Snow Buntings at Murrell's Inlet on 29 December 1971 (Cruikshank 1972).

At least 24 individual Snow Buntings have been found in South Carolina from 1926 to the present; three were taken as scientific specimens. One bird was seen regularly at the same location near Charleston from mid-December 1954 through mid-January 1955, indicating that the South Carolina sightings represent winter residents rather than vagrants.

GEORGIA

Except for one inland occurrence (DeKalb County), all the Georgia records of the Snow Bunting are from the coast (Columbia, Chatham, and Liberty Counties). Burleigh (1958) mentions all but the most recent sighting. The first specimens taken were recorded in 1864 (Liberty County) and February 1891 (Columbia County). Both specimens were lost, the latter having been destroyed in a fire at the University of Georgia. There are three additional coastal records: three birds on 28 January 1927, Groovetown, Columbia County; a male, 24 December 1932, Oysterbed Island, near the mouth of the Savannah River, Chatham County; and an adult female, 28 December 1952, Tybee Island, Chatham County. Four individuals were observed and photographed on the top of Stone Mountain, DeKalb County, 15-27 November 1969. The birds were observed on "barren rock

Table 2. Number of observations per month.

	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Total
N.C. coast	1	17	9	7	4	—	—	38
S.C. coast	1	5	4	2	1	—	—	13
Ga. coast	—	1	2	1	1	—	—	5
Fla. east coast	—	3	1	—	—	—	—	4
Fla. gulf coast	—	—	1*	1*	1*	—	—	3
Total	2	26	17	11	7	0	0	63
Percent	3.2%	41.3%	27.0%	17.5%	11.0%	0	0	100%
N.C. piedmont	1	—	2	1	3	—	4	11
N.C. mountain	—	6	10	6	4	2	—	28
Ga. piedmont	—	1	—	—	—	—	—	1
Total	1	7	12	7	7	2	4	40
Percent	2.5%	17.5%	30.0%	17.5%	17.5%	5.0%	10.0%	100%
Grand total	3	33	29	18	14	2	4	103
Percent	2.9%	32.0%	28.2%	17.5%	13.6%	2.0%	3.8%	100%

*same bird

dotted with a few shallow pools and small pockets of grass, no more than a few feet wide" and apparently "found food both in the grass and on the rock" (Fink 1969). This represents the southernmost inland record for the East.

FLORIDA

The Snow Bunting has been found in only two locations in Florida. A very unusual site is on the lower Gulf Coast at Venice, Sarasota County, where a bird remained from 23 December 1973 through 25 February 1974 and was attaining breeding plumage when last seen (Stevenson 1974). The other four records are all from sand dunes at the mouth of the Saint John's River in northeastern Florida (Duval County). Two birds were collected from a flock of nine on 29 November 1969 (Stevenson 1970); one bird was found 23 November 1972 (Stevenson 1973); two were seen from 22 November through December 1973 (Edscom 1974); and one was observed from November 1973 until 12 February 1974 at Fort George Island (Stevenson 1974).

It is interesting to note that the Snow Bunting has been recorded once from the Bahamas, where a specimen was collected in December (Paulson 1966).

MIGRATION

In autumn, Snow Buntings have been recorded in North Carolina on the upper coast as early as 2 November, in the piedmont on 23 October, and in the mountains on 7 November. Mid-November is the period of peak observed occurrence at most localities (Tables 1 and 2). Ninety-two percent of all sightings have occurred from November through February.

Most of these birds apparently leave the beach sand-dune and mountain-bald wintering grounds in late February. March records from Tryon and Bradley Gap as well as April records from Elkin, Pittsboro, and Fayetteville probably represent spring migrants. The status of the Snow Bunting in the Sandhills is not clear. Birds found here in February may represent local winter residents, very early spring migrants, or a premigratory inland movement of birds that wintered along the coast. Inland Snow Bunting sightings other than those on mountain balds apparently occur almost exclusively along major rivers or their tributaries. Tryon and Bradley Gap lie near the headwaters of tributaries to the Santee-Cooper river system that reaches the sea near Charleston. Elkin is at the head of the Yadkin-Pee Dee system that joins the Waccamaw River near Murrell's Inlet. Fayetteville and Pittsboro are in the Cape Fear basin above Wilmington. These geographic relationships suggest that spring migrants frequently follow river basins northward.

DISCUSSION

Snow Buntings are known to have visited some part of the Carolinas in every winter but two during the 23 seasons from 1943-44 through 1974-75 (Table 1). They are less regular further south. Though often scarce, they can be considered regular winter visitors from November through February along the North Carolina coast south to the vicinity of Cape Lookout. Table 1 shows published records of the species from Bodie Island to Cape Lookout for seven of the last eleven winters for which data are given. From Cape Lookout southward the records are irregular, with single birds predominating. Birds found in central North Carolina in April probably are spring migrants, although a few birds apparently winter from time to time in the Sandhills and around large lakes such as White and Kerr.

In the southern Appalachians, Snow Buntings appear to be fairly regular winter residents from mid-November to late February on certain grassy balds above 5000 feet in elevation. The inaccessibility of these high balds and the harsh winter weather at elevations above 5000 feet undoubtedly account for the scarcity of records. Extensive winter field work on the high balds probably would reveal Snow Buntings to be present in larger numbers and at more localities in the southern Appalachians than presently indicated.

Table 1 suggests that Snow Buntings are scarce or absent in the mountains when they are relatively abundant on the coast. The species has not been recorded in the mountains when a major flock (20 or more birds) occurred on the Carolina coast. The unusually large coastal influx during the winter of 1969-70, for example, does not appear to have been accompanied by a similar influx in the mountains. Conversely, during the two winters having the largest number of montane records (1954-55, 1957-58) no reports came from the North Carolina coast, and only single birds were found around Charleston, S.C. Unfortunately, there are not enough data to determine whether this can be attributed to the behavior of the birds or to the inconsistency of field work. The absence of published records does not necessarily mean that the birds were not present. The alternating pattern does suggest that the coastal and montane winter populations come from entirely separate geographic areas and migrate in response to unrelated population pressures, or perhaps, to food shortages within the more northerly portions of their winter range. The fact that there are regular wintering populations on the coast of the Northeastern States and in the Ohio Valley plus the scarcity of records in central Carolinas suggests that the fall movement of the birds that winter on the coast is southward along the coast while the fall movement of the mountain population is southward through the Ohio Valley. The records for Georgia and Florida are sparse as would be expected at or near the southern limit of the winter range.

ACKNOWLEDGMENTS

Most of the mountain records were supplied by the late Fred Behrend of Elizabethton, Tennessee. An outstanding naturalist, Mr. Behrend suffered a stroke while hiking alone on 12 June 1976 and died two months later at age 80. His friends in Carolina Bird Club can find a biographical sketch in *The Migrant* 47:72-73.

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North Carolina State Museum of Natural History, P.O. Box 27647, Raleigh, N.C. 27611, 9 November 1976.

Mid-Winter Bird Count At the South Carolina State Parks

HARRY E. LeGRAND JR.

In 1977 the South Carolina Division of State Parks, under the direction of John Reid Clonts and Brian E. Cassie, sponsored its first Mid-Winter Bird Count. The objective of the count was to census winter bird populations in a number of state parks selected to provide the greatest geographical diversity. Seven parks were censused on 29 January, and seven others were censused on 5 February.

The following parks were censused on Saturday, 29 January (numbers in parentheses are the numbers of observers, species, and individuals, respectively, on each count): Aiken (5, 47, 496); Cheraw (3, 27, 327); Croft (2, 37, 473); Hickory Knob (6, 41, 411); Hunting Island (10, 94, 5144); Oconee (7, 34, 432); and Santee (6, 54, 734). Those censused on Saturday, 5 February, were: Huntington Beach (8, 91, 4022); Kings Mountain (5, 36, 288); Lynches River (9, 53, 4218); Rivers Bridge (4, 37, 326); Sadlers Creek (5, 33, 432); Sesquicentennial (5, 35, 1462); and Table Rock (5, 28, 107).

The total number of species seen was 143, and the total number of individuals was 18,872. Seventy-seven field observers participated. Because of space limitations the count cannot be published in full.

The weather for the count was generally clear, cold, and windy (gusts up to 30 knots) on each day. However, the winter of 1976-77 in South Carolina was perhaps the coldest in recorded history, and the two weeks preceding the count were severely cold. The weather had a definite negative effect on bird populations, presumably causing much mortality, especially among small insect-feeding birds. Even though there were no previous park counts with which to base any comparisons, it was obvious to most observers on the counts that practically all warblers, wrens, and especially the kinglets were in greatly reduced numbers as compared with those of normal winters. The scarcity of such species was even more noticeable because these birds winter primarily in wooded habitats, and many state parks contain only forests (little or no open

country). Thus, some parks seemed nearly devoid of birdlife, particularly those in the upper portion of the state.

Comments on a number of species seem necessary because of their scarcity. First, many of the common open country species (such as Mourning Dove, Starling, Eastern Meadowlark, and blackbirds) were scarce because of the poverty of their preferred habitats; and the House Sparrow and remarkably the Cedar Waxwing were not seen at all! Second, winter finches had an off-winter, as no Evening Grosbeaks, Pine Siskins, or Red Crossbills were reported. Third and most important, the severe weather caused many of the smaller, insect-feeding species to be found in reduced numbers, especially in the sandhills, piedmont, and mountains. Species particularly affected were Winter Wren, Carolina Wren, Golden-crowned Kinglet, Ruby-crowned Kinglet, Yellow-rumped Warbler, and Pine Warbler.

Only a few species seemed to be present in above normal numbers. American Robins and Dark-eyed Juncos appeared to be in this category, and the Hermit Thrush almost certainly was the surprise species. It was seen or heard on all 14 counts and was in double figures on seven, and four counts tallied at least 20 individuals.

Several rarities were reported on the park censuses. A Bald Eagle was sighted at Santee. Huntington Beach observers found a Red-necked Grebe, a European Wigeon, seven Common Mergansers, three Savannah (Ipswich) Sparrows, and three Snow Buntings. Adair Tedards, Vivian Smith, and Caroline Watson saw a Blackburnian Warbler at Hunting Island, apparently the second winter record for the state. They noted the dark cheek patch, large white wing patch, and trace of orange on the throat and upper breast.

The Division of State Parks plans to continue the Mid-Winter Count in future winters, and they also began a Breeding Bird Count in June 1977 at these same 14 parks. Persons wishing to participate on these counts, as well as those desiring a copy of the 1977 Mid-Winter Count (including a list of field observers), should contact either John Reid Clonts (Count Coordinator) or Brian E. Cassie (Count Compiler). Their address is: South Carolina Department of Parks, Recreation & Tourism, Suite 113, Edgar A. Brown Building, 1205 Pendleton Street, Columbia, S.C. 29201.



Roundtable

... with Louis C. Fink

More on Starving Birds

Charles H. Blake of Hillsborough, N.C., graciously provides more information about birds without food. "A good many years ago," he writes, "J.A. Hagar, then State ornithologist in Massachusetts, undertook a detailed study of the Black Duck which winters commonly on the Massachusetts coast. He found that if — for various reasons — a bird lost a certain amount of weight, perhaps 30% of its original weight, it seemed to pass a point of no return. By that I mean that even if it was given food, it could not recover its weight and survive. Unfortunately, we usually don't have the opportunity to undertake such investigations."

Bob Teulings Stumped?

I find it hard to believe, but *Southern Living* magazine for April reported that Dr. Robert Teulings was stumped and frustrated. He had seen a hawk and "his mind told him he shouldn't have seen what he saw." But he could not stop, because Bob was leading a field trip for the Mountain Ecology Workshop near Cedar Mountain, N.C. The workshop was scheduled for May, with about 60 participants.

Natural Areas of Charleston

The National Audubon Society has produced a brochure entitled "Natural Areas of Charleston, S.C." It describes 18 areas that should interest any member of CBC, gives directions, and includes a map. A free copy may be obtained from National Audubon Society, P.O. Box 786, Charleston, S.C. 29402.

Do Chickens Ever Go Wild?

At a spring meeting of the CBC at Brevard a few years back, I listened with interest as a young ecologist from the University of Georgia described how he'd attempted to introduce an assortment of chickens, white rocks, domineers, etc., to a life in the wild on Sapelo Island. The experiment came a cropper when a Great Horned Owl discovered the hapless birds and proceeded to dispatch them one by one. Perhaps the young scientist would have fared better had he started with a fowl like the Wild Cock of Ligon Road.

I first saw the aforementioned bird the morning of 1 April 1977. I'd just finished my morning chores at the N.C. State University greenhouse center on Ligon Road in west Raleigh when I spied a smallish rooster pecking away at the lawn in front of the facility. The bird was gaunt and gamey-looking, but elegant in black tail, black and red contour plumage, and golden hackles, colors reminiscent of his ancestor, the Red Jungle Fowl, and the domestic breed known as the Brown Leghorn. I attempted to approach the rooster, but he'd have none of it. He didn't exactly run for the nearby woods, but, rather, sidled cautiously away.

I thought little of the bird at first, assuming that he was the property of some of the Black citizens who dwell nearby. However, enquiries around the neighborhood turned up no owner, so I concluded that the rooster must have straggled in from parts unknown, and had come to like what he'd found. As of this writing, 25 May, the Wild Cock of Ligon Road continues to thrive on insects, waste grain, and whatnot, and grows warier by the day. I was hesitant to include him on the spring count, but if he, and me, are still around in December, I think by George I will, Harry LeGrand notwithstanding.—JOSHUA A. LEE, 5104 New Castle Road, Raleigh, N.C. 27606.

Ostriches in Edgecombe County?

They are Rheas, to be completely factual. The two are in a pen quite close to the pen containing Cinnamon, Green-winged and Blue-winged Teals, and not far from the pond harboring 20 pinioned Canada Geese. Peacocks have the run of the place, but other pens contain Mallards, Black Ducks, and a dozen exotics. Quail are being hatched—more varieties of quail than I knew existed. Pheasants aplenty.

The entire collection of several thousand birds is a private hobby, not open to the public—so I am not giving travel directions. My visit was brought about by the wishes of the fifth grade in our parish school in Rocky Mount. The kids had the choice of a number of day-long outings — and nine of them asked for bird-study. After an hour of color slides, we checked out the American Coots at City Lake and the Great Blue Heron and Common Snipe at the Coastal Plain Experiment Station. We were told to look for a dozen Cattle Egrets, but we never found them. The kids wound up with a list of 25 species, not counting the Rheas, etc., of course.

General Field Notes

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Autumn Record of a Sandhill Crane from Macon County, N.C.

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20 May 1975

During the autumn of 1968, an unusually heavy flight of Sandhill Cranes (*Grus canadensis*), numbering over 400 individuals, was reported from eastern Tennessee, with the records spanning the 20-day period from 21 October through 10 November. These sightings, summarized by Smith (1968, 1969) and Joseph C. Howell (pers. com.), are as follows: (1) Savannah Bay, 21 October, 3 cranes; (2) Maryville, 23 October, 41 cranes; (3) Cherokee Boulevard, Great Smoky Mountains, 23 October, 27 cranes; (4) Norris Lake, 1 November, 75 cranes; (5) Savannah Bay, 10 November, 3 cranes; (6) Chickamagua Dam, 10 November, 276 cranes

Coincident with this migration in Tennessee, a Sandhill Crane was reported near the home of Orton Spencer Chambers, Buck Creek Road, Highlands, Macon County, N.C., on 25 and 26 October 1968 and reported to the Highlands Biological Station. Mr. and Mrs. Chambers and Mr. and Mrs. Alan Wallace observed the crane as it fed along the edge of their pond at an elevation of 4000 feet. Being familiar with both the Sandhill Crane and the Great Blue Heron (*Ardea herodias*), the Chambers immediately recognized the bird. The crane flushed and circled briefly, allowing an opportunity to note its flight posture and wing beat. O.S. Chambers (pers. com.) informed me that the crane was a uniform gray color, conspicuously heavier or more robust than the Great Blue Heron, and that it flew with its neck fully extended and with the characteristic wing beat above body level. The bird was observed as close as 150 feet with the unaided eye and through 7 x 50 binoculars; light conditions were excellent, and all field marks were carefully checked. Mr. and Mrs. Chambers were unaware of the Tennessee records until I discussed the matter with them in June 1969.

This October record and Chamberlain's (1975) sighting of four cranes in Clay County, N.C., during March 1974 suggest that Sandhill Cranes may migrate across the extreme western portion of North Carolina, a region where very few ornithologists are active. Observers in this region should be alert for additional records during the migratory periods.

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A Wintering Pectoral Sandpiper in Northwestern South Carolina

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1 April 1977

The Pectoral Sandpiper (*Calidris melanotos*) is a regularly occurring spring and fall migrant in the Carolinas, but it normally winters in South America. Winter records for the United States are rare. Thus, of great interest is a Pectoral Sandpiper that spent the winter of 1976-77 in northwestern South Carolina. The record is even more unusual because the fall and winter in northwestern South Carolina may have been the coldest in recorded history.

I first saw the bird on 13 December 1976 on a large mudflat at the mouth of Little Beaverdam Creek at Lake Hartwell, 2 miles SE of Townville in Anderson County. The rough *purrrt* call attracted my attention to it, and I clearly saw the heavily streaked breast ending abruptly at the white belly. The legs were pale yellowish-flesh in color, and the size was slightly smaller than nearby Killdeer (*Charadrius vociferus*). I found the bird again on 5 January 1977 and 8 January 1977. A Least Sandpiper (*Calidris minutilla*) was present in January to afford size comparison with the Pectoral. Sidney Gauthreaux and Carl Helms also observed the Pectoral on 8 January. Very cold weather moved into the region until mid-February; however, the Pectoral was still present with the Least on 13 February. By March migrant Pectorals had arrived at the flats, as 6 were present on 5 March. Whether the wintering individual was one of the 6 is not known.

This may well be only the second winter record for South Carolina. On 27 December 1944 R.C. Murphy and H.S. Peters saw four birds on Bull's Island, Charleston County (*South Carolina Bird Life*, 1970, p. 241). The major significance of the record, however, is that a Pectoral Sandpiper spent the entire winter in the United States, probably one of the few documented instances of such a happening.

Probable Rufous Hummingbird at Raleigh, N.C.

ROBERT J. HADER

TOM HOWARD

North Carolina State University
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November 1976

On 2 November 1976 we found a late hummingbird feeding on a cluster of pineapple sage (*Salvia rutilans*) in the yard of Mrs. Jack Duffield in suburban Raleigh. At first glance it appeared to be a female Ruby-throated Hummingbird (*Archilachus colubris*); however, upon prolonged and close observation we noted a pale rufous wash along the flanks and eventually got a momentary glimpse of stronger rufous at the base of the tail.

Two days later we again studied the bird carefully with 10 x 50 binoculars and 20-power scope at close range and in excellent light as it fed on the sage flowers, and as it rested in small trees nearby. On three or four occasions we were able to see the full tail pattern as it spread its tail while preening. This was exactly as shown for the female Rufous Hummingbird (*Selasphorus rufus*) in Robbins, Brunn, and Zim *Birds of North America*; that is, rufous at the base of the tail separated from white-tipped outer tail feathers by a narrow dark green area. Otherwise the bird had white underparts with dark throat spots, a dull rufous wash along the flanks and a small white spot immediately behind in the eye. The head, back, and folded tail were a metallic green. At rest its wings were noticeably darker than the back.

Later in the day an unsuccessful attempt was made to collect the bird, after which it disappeared. It was last seen on the following day, 5 November, when several additional observers got good clear views of the tail pattern.

Inasmuch as the field guides show the female Rufous Hummingbird plumage as almost identical with that of the female Broad-tailed (*Selasphorus platycercus*) and Allen's (*Selasphorus sasin*) hummingbirds, there is a remote possibility that our bird was one of the latter two species. However, while we were able to find a number of records of the Rufous along the Gulf coast and one specimen record each for South Carolina and Maryland, we found only one Broad-tailed record (Louisiana) and no Allen's record in the east or southeast. We have little or no doubt that our bird was a Rufous and, as such, the first documented sight record for North Carolina. We do feel that there is a good possibility that one or more of the previous winter records of Ruby-throated Hummingbirds in North and South Carolina could well have been Rufous Hummingbirds. Incidentally, the South Carolina specimen remained incorrectly labeled as a Ruby-throated for almost 20 years (*South Carolina Bird Life*, Sprunt and Chamberlain, 1949, p. 324).

[Dept. Ed.—With the publication of this record the Rufous Hummingbird can be placed on the hypothetical list for North Carolina.]

Brown-headed Cowbird Behavior

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12 August 1975

Every summer, for several years, Rufous-sided Towhees (*Pipilo erythrophthalmus*) have raised Brown-headed Cowbirds (*Molothrus ater*) here. I have watched them with interest and often wondered where they go when they are on their own. Last winter, I had the opportunity to read what is known about cowbirds in Bent's *Life Histories of N. A. Birds* (U.S. Natl. Mus. Bull. 211, 1958, p. 421-450). That young cowbirds find their way back to flocks of their own kind is well known. The question remains how is this done?

Last summer we had four young cowbirds raised by towhees. Each time a young bird was on its own, it remained here a few days and then disappeared. Each time, a day or so before the immature bird departed, I heard and/or saw an adult cowbird in the area (sometimes a male; sometimes a female; once, both). The idea came to me that perhaps the young birds followed the adults away. However, it was merely conjecture on my part for I never saw any contact between adult and immature cowbirds.

I finally discovered the break-through for which I had been looking right in my own back yard. My observation as I wrote it down is as follows:

August 12, 1975, 10:45 a.m.

Heard adult female cowbird giving loud calls, a sort of "chuck" and located same on low branch of pine tree. She was soon joined by an immature cowbird which gave with a familiar "chip" and other notes often heard when the young were begging for food. I had noted a fully fledged immature cowbird being fed by a male towhee on August 7. It appeared to be able to pick up its own food, but as young birds often do, it begged for food from the "parent" towhee.

I watched the two cowbirds, adult and immature, for some few minutes. The female kept calling and moving higher in the trees. The juvenile followed and they flew away together over the tree tops and out of sight.

At 12:05 p.m. on the same date, the female cowbird (recognized both times by a loose feather sticking up from her shoulder) showed up again briefly, without the young bird. She did not linger, just seemed to be looking for food.

This observation indicates that young cowbirds may respond to adults of their species by sight or sounds or both and may thus join flocks of their own species as they become independent of foster parents.

Western Birds in the Sandhills of North Carolina

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Received 20 March 1976

On 10 August 1974, I observed an adult male Western Tanager (*Piranga ludoviciana*) in the Sandhills Game Land, about 5 miles NW of Hoffman, Richmond County, N.C. The bird was watched for about 5 minutes with 9 x 35 binoculars, as it fed with Summer Tanagers (*Piranga rubra*) and other small woodland birds. Habitat was long-leaf pine (*Pinus palustris*) — turkey oak (*Quercus laevis*) woods. It was still in breeding plumage, though the plumage was worn and dingy. There are at least 12 previously published records for this species in North Carolina. This occurrence represents the first August record, and there are now published records from all months except April and May. Other summer records are two at Waynesville in June 1944 (*Chat* 11:14) and a female at Black Mountain on 19 July 1972 (*Chat* 36:115).

On 26 December 1974, a female Black-headed Grosbeak (*Pheucticus melanocephalus*) appeared at the feeders of Mr. and Mrs. John T. Lees in Pinehurst, Moore County. This individual was seen regularly through mid-February 1975, and was last seen on 18 April 1975. Besides being observed repeatedly by the Lees, the grosbeak was also seen by Mrs. Perry Jones and the author. This is the fifth published record for the Black-headed Grosbeak in North Carolina, and the first record for the south-central portion of the state.

A male Bullock's Oriole (*Icterus galbula bullockii*) was discovered by Miss Mary K. Wintyen at her feeders in Southern Pines on 13 January 1975. It was associated with a flock of Baltimore Orioles (*I. g. galbula*), and was very shy. It was seen on two occasions by the author, and once by John Fussell. The last date it was observed was 18 March 1975. There is one previous record for this subspecies in North Carolina. A male, female, and two immatures were seen in Morehead City in December 1959 and January 1960 (*Chat* 24:26).

High Elevation Nesting of the Indigo Bunting Near Mt. Pisgah, N.C.

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Received 18 February 1976

The Indigo Bunting (*Passerina cyanea*) occurs at all elevations during the breeding season in the southern Blue Ridge Mountains, where it prefers disturbed open areas of secondary successional growth and forest-field edge. Stupka (*Notes on the Birds of Great Smoky Mountains National Park*, 1963) and Simpson (*J. Elisha Mitchell Sci. Soc.*, 88:244-251, 1972) have noted that records above 1525 m (5000 feet) almost invariably consist of solitary males, with no evidence of females, nests, or young except at lower elevations. The following observations suggest that the species does occasionally breed in the higher mountains.

On 30 and 31 May 1975, I watched a pair of Indigo Buntings constructing a nest in a dense thicket of blackberry (*Rubus* sp.) at an elevation of 1585 m (5200 feet) along the Blue Ridge Parkway near Mt. Pisgah, Henderson County, N.C. The structure was placed 55 cm (22 inches) off the ground in the heart of the thicket and appeared to be at least three-quarters finished. Because I was unable to return at a later date, it is not known whether eggs were laid or young successfully fledged. Nevertheless, this is the only record that I am aware of suggesting the possibility of nesting at such an elevation. Observers should document any additional records of breeding above 1585 m in the southern Blue Ridge.

Sharp-tailed Sparrow at Highlands, N.C.

JOHN C. HORN

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25 June 1976

On 15 May 1976, after a heavy two-day rain, I found a Sharp-tailed Sparrow (*Ammospiza caudacuta*) on the shore of Lake Ravenal at the Highlands Biological Station, Highlands, N.C. I first saw it at 1500 for about 30 seconds with 7 x 35 binoculars at a distance of 5 m. Because the vegetation cover was sparse, I was able to get an excellent view of the bird. The orange triangle on the face was quite prominent; other field marks included a gray cap and shoulders, white stripes on the back, and light but distinct streaking on the sides. I found it again under similar conditions at 1900, leisurely observed it for some 5 minutes, and saw that the breast was buffy and lightly streaked. Following the admonitions of Hill (in Bent 1968) and Chamberlain (1975), I will not attempt to put the bird in a subspecies, particularly since at least three subspecies — *altera*, *diversa*, and *nelsoni* — could conceivably take this route from wintering to breeding grounds as listed in the A.O.U. Checklist (1957).

To my knowledge this is the first report of a Sharp-tailed Sparrow in the Appalachians south of Virginia. I have searched through *American Birds*, *Audubon Field Notes*, and the *Chat*; the Appalachian notes of Stupka (1963), Johnston (1964), and Simpson (1972); and regional bird lists of all neighboring states. I have been unable to search the *Oriole* or the *Migrant*. No specimens from the area have been placed in the N.C. State Museum since the last edition of Pearson, Brimley, and Brimley (1959), and the species is not on record in the biota cards of the Highlands Biological Station. I did find four pertinent spring sightings. One was by Frost, Hill, and Snively at Winston-Salem, N.C., on 24 May 1973 (Teulings 1973); two by LeGrand (1974) in Anderson County, S.C., on 19 May 1974; and one by Howell in Blount County, Tenn., in May 1957 (Brooks 1957). No locality is given for the last, and since Blount County extends from Knoxville to the Great Smoky Mountains, this may be a mountain record. LeGrand's sightings were only 50 km SE of Highlands, but 915 m lower in elevation.

I would like to thank Joseph R. Bailey of Duke University for his comments, and David S. Lee of the N.C. State Museum for checking the museum records. My presence in Highlands was made possible by a grant from the U.S. Forest Service and a grant-in-aid from the Highlands Biological Station.

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BRIEFS FOR THE FILES

HARRY E. LeGRAND JR., Guest Compiler
(Winter Season 1976-1977, unless otherwise indicated)

COMMON LOON: A count of 21 at Lake Murray, S.C., on 8 January by Bob Lewis was excellent for an inland site.

RED-THROATED LOON: Merrill Lynch observed five at Roanoke Rapids Lake, N.C., on 8 January, perhaps a record inland count for the Carolinas.

RED-NECKED GREBE: A very rare inland visitor was seen on Lake Greenwood, S.C., on 21 and 27 February by Bob and Lisa Lewis; another was found at Huntington Beach State Park, S.C., on 5 February by Pat Probst, Pete Laurie, and Perry Nugent; and two were seen near Buxton, N.C., on 27 January by Peter Scott and Bill Hudson.

HORNED GREBE: Bob and Lisa Lewis had a flock estimated at 1400 birds on Lake Murray, S.C., on 8 January, in addition to 57 other individuals on the lake the same day. Other good inland counts were 55 at Roanoke Rapids Lake, N.C., on 8 January by Merrill Lynch, and 49 at Lake Greenwood, S.C., on 3 December by Bob Lewis.

BROWN PELICAN: One was seen flying over New Bern, N.C., on 31 December by John Fussell. This seems rather far inland for the species.

AMERICAN BITTERN: An individual was found dead in early February at Beaverdam Reservoir in northern Wake County, N.C., by John Connors.

WHISTLING SWAN: Two adults and three immatures were noted on Lake Greenwood, S.C., on 10 December by Bob and Lisa Lewis; and these birds were seen in flight nearby on 12 December by the same observers.

CANADA GOOSE: A group of 35 birds at Pinehurst, N.C., on 9 January was locally unusual (Marion Jones).

BRANT: Noteworthy numbers were seen in eastern North Carolina this winter, apparently due to the freezing over of coastal bays to the north of the state. They were common from Oregon Inlet to Cape Hatteras point in January and February, according to Joe Hudick, and he saw birds on several occasions feeding along the road at the Oregon Inlet Campground! The peak count at Pea Island was 1650 on 15 February, based on a survey by N.F. Williamson Jr. John Fussell had as many as 100 in the Morehead City area during these months, and Fussell and Jim Martin saw 125 in Pamlico County on 3 to 5 February.

WHITE-FRONTED GOOSE: Three adults were seen by Bob and Lisa Lewis on 24 January at the Santee N.W.R., Clarendon County, S.C.

SNOW GOOSE: Four adults (two whites and two blues) were seen at a goose pond near Garysburg, Northampton County, N.C., on 8 January by Merrill Lynch; and four white phase birds were observed by Ricky Davis at Masonboro Island, N.C., on 31 January.

FULVOUS WHISTLING-DUCK: Tom Smith saw 35 at Pea Island, N.C., on 18 December; and seven were on a pond near Cape Hatteras, N.C., on 13 January, as reported by Joe Hudick.

CANVASBACK: Approximately 20 seen by James Pullman and Elizabeth Teulings at Umstead State Park near Raleigh, N.C., on 13 December were unusual at that locality.

GREATER SCAUP: Notable inland winter records were three (one male) at a farm pond near Townville, S.C., from 5 to 8 January, as seen by Harry LeGrand, Sidney Gauthreaux, et al., and a male seen on Lake Greenwood, S.C., on 3 December by Bob and Lisa Lewis.

COMMON GOLDENEYE: High inland counts were five seen by Ramona Snavelly

- et al. at Salem Lake, Forsyth County, N.C., on 13 January, and 12 seen at Roanoke Rapids Lake, N.C., on 2 and 8 January by Merrill Lynch.
- OLDSQUAW:** Harry LeGrand found three birds on Lake Hartwell, S.C., near Clemson on 13 December.
- HARLEQUIN DUCK:** A male was observed at Radio Island near Morehead City, N.C., on 11 December by Henry Haberyan, and Bill Hetler saw presumably the same bird nearby on 26 and 27 December. Another bird (sex not reported) was at Bull's Island, S.C., on 27 December, as seen by Holland Mills.
- HOODED MERGANSER:** Merrill Lynch noted 200 at Roanoke Rapids Lake, N.C., on 8 January, an excellent count for this species.
- RED-BREASTED MERGANSER:** Seven were seen at Rocky Mount, N.C., on 2 December by Lou Fink; and 33 birds were noted by Bob and Lisa Lewis at Lake Murray, S.C., on 8 January.
- COMMON MERGANSER:** High inland counts were 11 (three males) seen at Roanoke Rapids Lake, N.C., on 8 January by Merrill Lynch, and 22 (only one male) seen on 3 February at Lake Greenwood, S.C., by Bob and Lisa Lewis. The Lewises found this species at Lake Greenwood from 5 January to 3 February, and also noted 15 birds there on 7 January.
- SWALLOW-TAILED KITE:** One was quite early and unusual at Fort Macon, N.C., on 27 February, where John Fussell saw the bird flying ENE along the coast.
- ROUGH-LEGGED HAWK:** Lou Fink observed an individual at Occoneechee Neck in Northampton County, N.C., on 3 February; and a light-phase bird was seen by Bill Lazar and Tom Howard during the period 5 to 15 February at the newly constructed Beaverdam Reservoir in Wake County, N.C.
- GOLDEN EAGLE:** An immature was seen at Pungo N.W.R. in eastern North Carolina on 21 January by Ralph Keel et al., fide John C. Fields.
- BALD EAGLE:** Inland sightings were single birds at Pinehurst, N.C., on 21 January, fide J.H. Carter III, and an immature at Lake Wheeler near Raleigh, N.C., from 21 to 25 January, as reported by T.L. Quay.
- OSPREY:** John Fussell noted one on Bogue Banks, N.C., on 22 February, an early sighting for that area.
- MERLIN:** One was studied at leisure on a telephone pole near Pendleton, S.C., on 11 February by Sidney Gauthreaux, Harry LeGrand, and the Clemson University ornithology class.
- KING RAIL:** A rare inland sighting in winter was one observed at Lake Benson, Wake County, N.C., on 11 February by John Connors, Rick Betton, and Bob Walton.
- LONG-BILLED CURLEW:** One was seen at Hatteras village, N.C., on 11 and 17 December by Joe Hudick.
- WHIMBREL:** Rare winter sightings were single birds at Hatteras village, N.C., from 2 to 17 December (Joe Hudick), and at Morehead City, N.C., on 11 February (Mary Simpson).
- RED KNOT:** A flock of 325 birds seen by Joe Hudick at Cape Hatteras point, N.C., on 2 December was an excellent count for the winter season.
- PURPLE SANDPIPER:** At least 40 were observed at Fort Moultrie, Charleston County, S.C., on 23 January by Bob and Lisa Lewis.
- AMERICAN AVOCET:** Dennis Forsythe et al. found 18 at Fort Johnson near Charleston, S.C., from 1 to 5 March.
- GLAUCOUS GULL:** One was seen by Bob and Lisa Lewis on Pawleys Island, S.C., on 23 January. Joe Hudick noted four birds at Cape Hatteras point, N.C., on 16 February, and he had singles there on 15 and 19 January. All birds reported were immatures.
- ICELAND GULL:** An immature was seen at Cape Hatteras point, N.C., on 19 January, and another immature was there on 16 February, as reported by Joe Hudick.

The Records Committee of the Carolina Bird Club is currently evaluating Glaucous and Iceland Gull reports in the Carolinas, as there is still no specimen of the Iceland Gull for either state. Several reports (sight records and specimens) of birds believed to have been Icelanders have actually or apparently been Glaucous Gulls. The Committee plans to publish details on a number of these records, in addition to their comments and recommendations, in an upcoming issue of *Chat*.

HERRING GULL: Two adults and three immatures were seen at Winston-Salem, N.C., on 24 February by Royce Hough, a noteworthy record for that locality.

BONAPARTE'S GULL: Bob and Lisa Lewis had an excellent count of 250 at Lake Greenwood, S.C., on 3 December.

BLACK SKIMMER: Unusual numbers were seen in the Cape Hatteras, N.C., area this winter, with flocks up to 33 birds noted after mid-January along the tidal pond there, fide Joe Hudick.

RAZORBILL: Single birds were found dead at Huntington Beach State Park, S.C., on 16 January by John E. Cely, and near Bogue Inlet Pier on Bogue Banks, N.C., on 18 January by Ken Leber.

MONK PARAKEET: One was seen and heard at the Faculty Club near Raleigh, N.C., on 21 August 1975 by David E. Davis, who has experience with this species in Argentina.

LONG-EARED OWL: Wendell P. Smith heard one calling at North Wilkesboro, N.C., on 27 January.

SHORT-EARED OWL: One was seen at dusk on Ocracoke Island, N.C., on 27 January by Peter Scott and Bill Hudson. At least two were seen on numerous dates through 20 February by many observers at the fields in the bed of Beaverdam Reservoir in Wake County, N.C. Merrill Lynch found an individual there on 19 February that apparently had been shot and gave it to the N.C. State Museum.

WHIP-POOR-WILL: Two possibly wintering individuals were seen on a road at Gloucester, Carteret County, N.C., on 1 December by Allyn and JoAnne Powell.

HORNED LARK: Over 1000 wintered at Occaneechee Neck in Northampton County, N.C., according to Merrill Lynch and Lou Fink. The latter observer estimated that 95% were of the Northern race, based on the presence of the yellow eyestripe. Excellent South Carolina counts were 80 near Anderson on 5 February (Phillip A. Waggett), 100 near Pendleton on 19 February (Harry LeGrand), and 150 near Townville on 8 January (Sidney Gauthreaux, Harry LeGrand).

BARN SWALLOW: One was very early at Clemson, S.C., on 25 February, seen by Harry LeGrand and Paul Faulk.

PURPLE MARTIN: A male arrived on the early date of 20 January near Georgetown, S.C. (Sam Crayton). Another was also early on 14 February at Belton, S.C., as reported by Charles Martin.

BLUE-GRAY GNATCATCHER: One was mist-netted at Clemson, S.C., on 14 December by Val Nolan. This is perhaps the same individual that wintered there in 1975-76.

WHITE-EYED VIREO: One was observed at Cape Hatteras, N.C., on 20 January by Joe Hudick, well to the north of the normal winter range.

SOLITARY VIREO: Unusual midwinter records for the piedmont region were single birds seen on 13 January near Durham, N.C., by John Horn, and on 21 January at Clemson, S.C., by Harry LeGrand and Paul Faulk.

BLACK-AND-WHITE WARBLER: Two were late at Greenwood State Park, S.C., on 12 December, as seen by Bob and Lisa Lewis.

ORANGE-CROWNED WARBLER: Merrill Lynch observed one at Roanoke Rapids, N.C., on 24 December.

YELLOW-BREASTED CHAT: A first winter record for Clemson, S.C., was an individual seen on 1 December by Harry LeGrand and again on 8 January by Sidney

[REDACTED]

IN MEMORIAM Frederick Hamilton May

Fred H. May, historian and naturalist, died 22 April 1977 in Lenoir, N.C., at age 86. Among his survivors are his wife, Mary; a daughter, Mrs. O.J. Brown of Salisbury; a sister, Mrs. O.D. Paul of New Bern; a brother, Reginald May of Charlotte; and seven grandchildren and seven great-grandchildren. A retired timber appraiser and buyer, Fred formerly owned *The Lenoir News-Topic* and wrote a column on North Carolina history.

Fred served as president of Carolina Bird Club during the mid-1950s. A memorial fund for his son, Bill, was one of the early major contributions to the CBC Endowment Fund; and throughout his term as president, Fred stressed the importance of adequate financial security as a basis for worthwhile club activities. Writing in the June 1956 *Chat*, Fred told members that CBC "must adopt a more active program in educational work and render a greater service in the field of conservation.... To carry forward such an active program new sources of income must be tapped." Those words are as true today as they were when Fred wrote them. Along with more money we need more members like Fred H. May.—GARVIN HUGHES and ELOISE F. POTTER

[REDACTED]

Gauthreaux and Harry LeGrand.

BREWER'S BLACKBIRD: Gail Whitehurst carefully watched a female with a flock of other blackbirds in her yard at Raleigh, N.C., on 19 February.

BLACK-HEADED GROSBEAK: One was seen by Florence Slifer at her feeder in Summerville, S.C., during parts of January and February.

PAINTED BUNTING: An adult male was present from 25 December to the end of February at a feeder just west of Morehead City, N.C., fide John Fussell.

HOUSE FINCH: Approximately 300 roosted in the Raleigh, N.C., Rose Garden this winter, according to T.L. Quay. A male was seen at a feeder in Aiken, S.C., on 17 and 18 February by Helen Mary Fenninger; and one was present at a feeder in Morehead City, N.C., into early December, fide John Fussell. This winter saw the largest numbers of this species yet recorded in the Carolinas, and the 300 birds mentioned above is a record count for the Carolinas.

LARK SPARROW: Single birds were at feeders in Morehead City, N.C. (all winter, Charles Lincoln), and at Hilton Head Island, S.C. (12 January to 14 March, fide Louise Lacoss).

WHITE-CROWNED SPARROW: At least 10 were seen by Merrill Lynch on 9 March near Hamilton, Martin County, N.C., a further eastward extension of the winter range in the northern section of the coastal plain.

LAPLAND LONGSPUR: This species wintered in small numbers in northwestern South Carolina, as Sidney Gauthreaux and Harry LeGrand had peak counts of three near Pendleton on 26 February and 10 near Townville on 8 January. All sightings during the winter were associated with large flocks of Horned Larks.

SNOW BUNTING: Five were at Cape Hatteras point, N.C., on 11 December, seen by Joe Hudick; and as many as three were seen by several observers at Huntington Beach State Park, S.C., during the period 30 January to 27 February.

Contributors to the "Briefs for the Files" should continue to send their noteworthy sightings to Robert P. Teulings, the regular department editor. His new mailing address is Route 6, Box 191, Chapel Hill, N.C. 27514.



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OUR COVER—E. Wayne Irvin photographed the adult Sabine's Gull at Winston-Salem, N.C., in October of 1976. For full details, see General Field Notes in this issue, page 97.

THE BLACK-CAPPED CHICKADEE IN THE SOUTHERN BLUE RIDGE MOUNTAIN PROVINCE: A REVIEW OF ITS ECOLOGY AND DISTRIBUTION

MARCUS B. SIMPSON JR.

The Black-capped Chickadee (*Parus atricapillus*) is a common resident through much of Canada and the northern United States. South of Pennsylvania, however, the species' breeding range becomes increasingly restricted to the Appalachian highlands; and the bird is replaced by the Carolina Chickadee (*Parus carolinensis*) in the coastal plain, piedmont, and lower mountains of the Southeast. Although the southern breeding limit of the Black-cap occurs in the Blue Ridge Mountain Province of eastern Tennessee and western North Carolina (A.O.U. 1957), the distribution and status of the bird are not well understood in the region (Pearson et al. 1959). In recent years, sight records of the Black-capped Chickadee have been reported with increasing frequency from areas where there is no valid evidence of their presence. In hope of clarifying the situation, this paper reviews the history and presently known status of the species in the mountains of western North Carolina.

DATA SOURCES

The first published evidence that Black-capped Chickadees occurred in the Southern Appalachians came when Brewster (1886) observed and collected breeding specimens in the Black Mountains during the spring of 1885. Subsequent records have been reported by Batchelder (1886), Cairns (1887, 1889, 1891, 1894), Burleigh (1941), Oberholser (1937), Stupka (1963), and Alsop (1970). The most extensive study of the chickadee in the southern Blue Ridge was done by Tanner (1952), and his work remains the basic reference on the subject. Additional sources of information from areas outside the southern Blue Ridge include Hubbard and Hubbard (1973), Johnston (1971), Brewer (1963), Rising (1968), Ward (1966), and Odum (1942).

IDENTIFICATION

The major source of confusion and controversy over the distribution of the Black-capped Chickadee in western North Carolina is the difficulty of positively separating the bird from the closely related Carolina Chickadee. Characteristics traditionally used to distinguish these two very similar species include differences in behavior, song, morphology, and, in the southern Appalachians, habitat and elevation.

Behavior. Tanner (1952) and Johnston (1971) state that the Black-capped Chickadee is more curious and less timid than the Carolina Chickadee. Unlike the Carolina, the Black-cap can often be induced to approach the observer at close range by "squeaking," imitating the song, or playing tape records of the call notes or song. During the non-breeding season, however, behavior differences do not seem to be pronounced; and individual birds do not always conform to the anticipated patterns even during the nesting season.

Song. Differences in song are widely considered to be a useful and reliable means of identification, and Tanner (1952) and Johnston (1971) regard this as the best technique for separating the two species in the field. Black-caps usually whistle a clear "fee-bee-ee" or "phe-bee," while the Carolina gives a thinner, higher pitched, more rapid "fee-bee, fee-bay" or "see-fee, see-fu." The call notes of both species consist of a series of "dee-dee-dee" syllables; but those of the Black-cap are delivered in a lower pitch, with richer tone, and more slowly than those of the Carolina.

Unfortunately, these differences in song are not invariable, particularly in areas where the species' ranges come into close contact, a situation that prevails in the southern

Appalachians. Noting "frequent variations" in song during his studies in the Great Smokies, Tanner (1952) reported as an example a chickadee that gave songs "typical" of both species. Although not proven by collecting, his impression was that such birds were often young Black-caps that wintered in mixed flocks at low elevations and thus learned the song of the Carolina. In Rockbridge County, Virginia, Hubbard and Hubbard (1973) noted that songs typical of both species were heard throughout the nesting period from late March to early September, despite the fact that their extensive trapping and banding studies indicated that only the Carolina Chickadee was present in the region during that time. The Hubbards suggested that Carolinas may learn the Black-cap song during the fall and winter, when the two species occur in mixed flocks in their study area. Based on these data, the Hubbards "suggest that summer Black-caps can not be reliably identified in the area (and perhaps in western Virginia) on the basis of song alone, at least in areas where Carolinas are known to occur."

On several occasions during the breeding season, I have heard individual chickadees irregularly alternating the songs ascribed to both species. I have also noted atypical singing by birds that I thought were Black-capped Chickadees, although they gave songs not clearly referable to either species. These observations were made in spruce-fir and northern hardwood forests above 1370 m (4500 feet) in the Plott Balsam and southern Great Balsam Mountains of North Carolina and in the Mt. Rogers-Whitetop area of Virginia. Chickadees exhibiting these song patterns have been observed in the region of the two species' overlap in Illinois by Brewer (1971), and at Mountain Lake, Virginia, by Johnston (1971), who found evidence of hybridization in the specimens collected there.

Based on present data, therefore, song cannot be considered an invariably accurate means of distinguishing the two species, especially in those areas where the birds intermingle during any portion of the year.

Morphology. Morphological characteristics are the most consistent and reliable means for separating the Black-capped and Carolina Chickadees. Nevertheless, Tanner (1952), Brewer (1963), and Johnston (1971) have pointed out that size and plumage coloration are not always distinct and may show a broad range of overlap. The differences frequently are subtle, and distinguishing the two species in the field on purely morphological grounds is much more difficult than generally recognized and may often be impossible (Johnston 1971). Black-caps tend to be larger than Carolinas, but Tanner (1952) found considerable overlap in the size range of the two species collected in the southern Appalachians. Black-caps usually have white edging in the secondaries, greater coverts, and outer rectrices, while these areas are gray in Carolinas. Unfortunately, these white borders are most conspicuous when the birds have acquired their post-breeding plumage, and the edging is progressively worn down until it may be completely absent by the following spring. The flanks and sides of Black-caps may show a distinct brown color, while "typical" Carolinas are said to be uniformly gray below (Bent 1946). Even with a specimen in hand, however, size and plumage coloration may not be sufficiently distinct to permit identification. In fact, Oberholser's (1937) criteria for defining the Appalachian Chickadee (*Parus atricapillus practica*) were "... smaller, particularly the tail; upper parts darker, more greyish, less ochraceous ... wing coverts and rectrices with narrower white edgings." In other words, the Black-capped Chickadees of the Southern Appalachians are characterized by more closely resembling the Carolina Chickadee than do the northern populations.

After careful analysis, Tanner (1952), Brewer (1963), and Johnston (1971) found the only consistent feature distinguishing the two species to be the ratio of tail length to wing length. Johnston gave the tail:wing ratio as .91 to .97 in the Black-capped and .82 to .88 in the Carolina Chickadee. Using similar criteria, Tanner (1952) was able to establish the identity of specimens he examined from the southern Blue Ridge, despite the overlap in other characteristics, including size. Intermediacy in the tail:wing ratio has been used as evidence of hybridization by Tanner (1952) and Johnston (1971). Obviously this measurement can be obtained only by capturing or collecting the birds.

Habitat and elevation. Brewster (1886) and Cairns (1889, 1891, 1894) state that Black-capped Chickadees occurred in the Black Mountains during the breeding season above

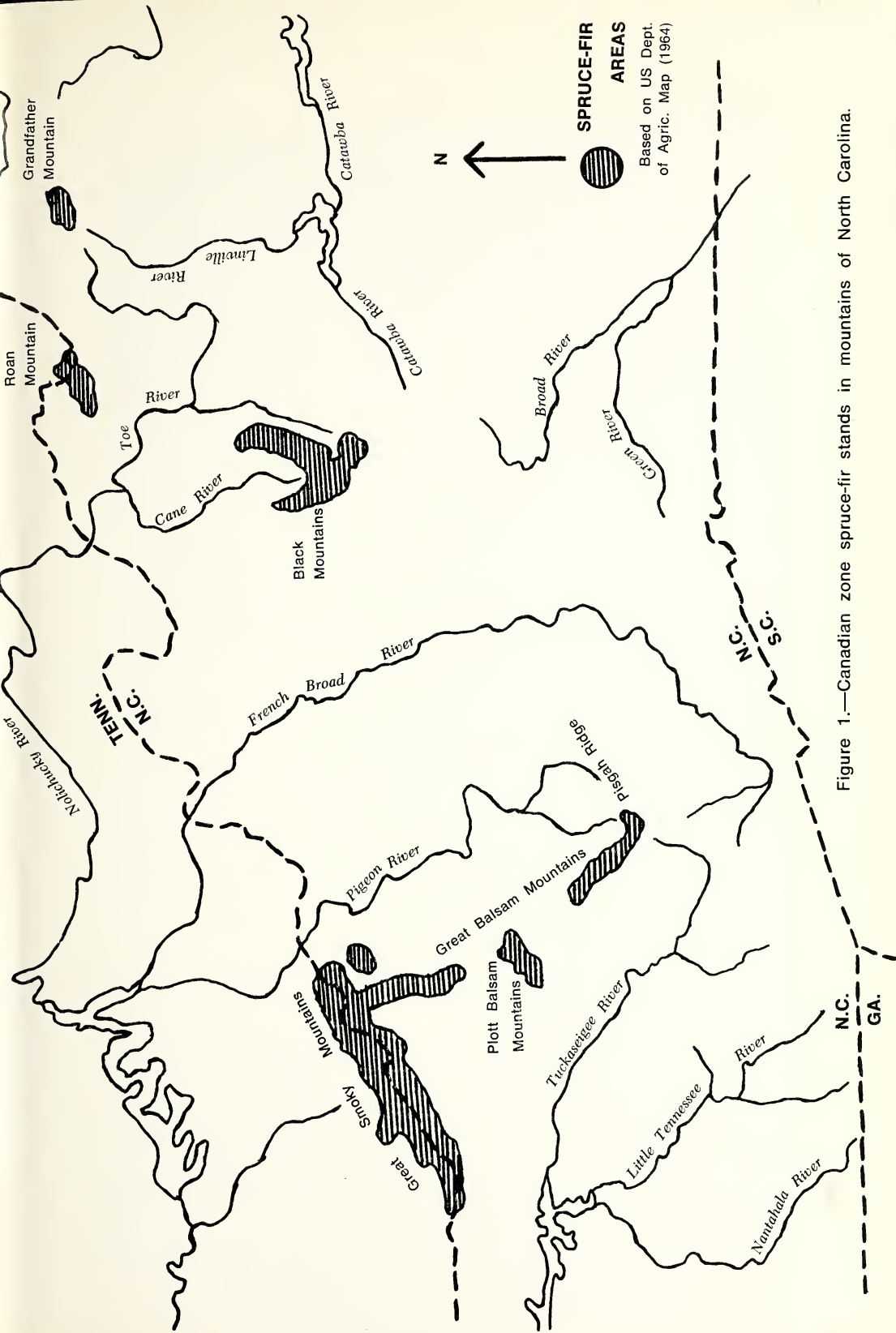


Figure 1.—Canadian zone spruce-fir stands in mountains of North Carolina.

1370 m (4500 feet) in forests of Fraser fir (*Abies fraseri*) and red spruce (*Picea rubens*), while Carolina Chickadees nested in deciduous forests below that elevation. Pearson et al. (1959) mention that Black-caps are found on some of the higher mountains, but they give no details. Unfortunately, these statements have been widely misinterpreted as meaning that elevation and habitat are reliable criteria for separating the two species throughout the southern Blue Ridge Mountains. Thus it has been assumed that a chickadee seen above 1370 m, especially if it is in Canadian zone spruce-fir forests (Fig. 1), is probably a Black-cap, while chickadees found in deciduous woods below this elevation are Carolinas. Ample evidence exists to refute this concept.

In ranges where the Black-capped Chickadee is absent, the Carolina Chickadee may occur above 1830 m (6000 feet) and often uses spruce-fir forests during the nesting season. In the Great Craggy Mountains, where Black-caps have never been reported, Cairns (1891) and Tanner (pers. com.) found that Carolina Chickadees regularly inhabit the deciduous forests up to 1830 m. Furthermore, Carolinas occur in the lower portions of the spruce-fir forests of the Black Mountains (Brewster 1886, Tanner 1952), Roan Mountain (Behrend pers. com.; Tanner, pers. com.), and Grandfather Mountain (Alexander 1973). In the Great Smokies, where the largest southern Appalachian population of Black-capped Chickadees presently occurs, Tanner (1952) observed a zone of approximately 245 m (800 feet) where neither species is found during the breeding season; and the Black-capped breeds down to 975 m (3200 feet) in both northern and southern deciduous forests.

In Illinois, where the ranges of the Carolina and Black-capped Chickadees meet and occasionally overlap, Brewer (1963) found that both species were identical in their habitat requirements. It seems probable that the occurrence of Black-caps in mountain ranges where spruce-fir forests are found is, at least in part, coincidental, being the result of their requirement for the higher elevations at this latitude. At any rate, it is clear that Black-capped Chickadees cannot be identified simply on the basis of habitat and elevation in the southern Blue Ridge.

CRITERIA FOR IDENTIFICATION

Although song, behavior, and plumage are said to be helpful in distinguishing between Black-capped and Carolina Chickadees, the only consistent and reliable feature separating the two species appears to be the ratio of tail length to wing length. Because this requires direct examination of the bird, authenticated records must be based on measurements of collected or trapped specimens. Since most of the higher mountains are protected by Federal and State regulations, this is often impractical or impossible. Field observers who suspect the presence of Black-caps should, therefore, provide thorough details of the features on which they base the identification. Although description of habitat, elevations, plumage, song, and behavior should be noted, it must be recognized that conclusive proof of the species' presence should ultimately rest on direct measurement of individual birds.

VERIFIED DISTRIBUTION

Based on the tail:wing ratio of captured or collected birds, authenticated records of Black-capped Chickadees have been obtained in the Great Smoky Mountains, Plott Balsam Mountains, and Black Mountains.

Great Smoky Mountains (Sevier, Cocke and Blount Counties, Tenn.; Swain and Haywood Counties, N.C.). Tanner (1952) and Stupka (1963) indicate that the largest population of Black-capped Chickadees in the southern Blue Ridge is presently located in the Great Smokies and immediately contiguous northern Great Balsam Mountains. In addition to Tanner's extensive work, some 20 Black-caps were collected from the Smokies between June 1930 and April 1932 by T.D. Burleigh and are now at the U.S. National Museum in Washington. During the breeding season, Black-caps occur throughout the spruce-fir forest and range down as low as 975 m (3200 feet) in forests of northern and southern hardwoods (Tanner 1952). During fall and winter, many of the Black-caps move to lower elevations where they associate in mixed flocks with Carolina Chick-

adees. Stupka (1963) regards the bird as a "fairly common permanent resident" in the Park, while Alsop's (1970) study on Mt. Guyot found a breeding density of six pairs per 100 acres of virgin spruce-fir forest. Tanner found four nests, all located in yellow birch trees (*Betula alleghaniensis*), but he informs me (pers. com.) that all were in the Tennessee portion of the Park. To my knowledge, there are no authenticated nesting records of the Black-cap in any of the North Carolina portions of its range.

Plott Balsam Mountains (Jackson and Haywood Counties, N.C.). Black-caps were first reported from this lofty transverse range by Charles Batchelder (1886), who collected a series of 13 specimens from Jones Knob in December 1885 and January 1886. This collection is presently at the Museum of Comparative Zoology at Harvard University. Subsequently, Tanner (1952), Richard H. Peake (pers. com.), and Simpson (present study) reported sight records of the bird from the spruce-fir and northern hardwood forest that cover much of the higher elevations. Although no specimens have been examined from this area in recent years, there is no evidence that the Black-caps have been extirpated or replaced by Carolina Chickadees.

Black Mountains (Buncombe and Yancey Counties, N.C.). The earliest evidence that Black-capped Chickadees occurred in the southern Appalachians came when Brewster (1886) reported the species to be a fairly common summer resident of the spruce-fir forests around Mt. Mitchell during his visit to the range in June 1885. Specimens collected there by Brewster are presently at the Museum of Comparative Zoology at Harvard University. Subsequently, Cairns (1887, 1889, 1891, 1894) regarded the Black-cap as a local breeder in the spruce-fir community of the range. S.C. Bruner and A.L. Field collected a specimen in July 1911 on Potato Knob and gave the skin to the North Carolina State Museum in Raleigh. By the 1930s, however, the species had been extirpated from the Black Mountains following the extensive logging and fires of previous years. Burleigh (1941) considered the bird "of accidental occurrence only" during his studies from 1930 to 1934, when the only Black-caps that he saw were two individuals collected on Mt. Mitchell on 8 May 1930 and now preserved at the U.S. National Museum. Burleigh's record is the last authenticated report of the species from the Black Mountains, and Tanner (1952) and Simpson (1972) found no evidence of its presence in the area during subsequent years.

UNVERIFIED SIGHT RECORDS

In the southern Great Balsam Mountains (Jackson, Haywood, and Transylvania Counties, N.C.), Harry LeGrand (pers. com.), Richard H. Peake (pers. com.), and Simpson (present study) have observed chickadees that exhibit behavior, song, and plumage characteristic of the Black-capped Chickadee. These have been comparatively large and tame chickadees, many of which gave the "fee-bee-ee" song typical of the Black-cap and showed conspicuous white edging in the wing and tail feathers. The birds have been observed during the breeding season and autumn in forests of spruce-fir and northern hardwoods at elevations above 1525 m (5000 feet). My records include a flock of 10 at Richland Balsam on 14 September 1969, 20 in small flocks near Buckeye Gap on 5 October 1969, 2 at Devil's Courthouse on 6 September 1968, a pair near the summit of Richland Balsam on 16 June 1963, and 1 at Devils Courthouse on 18 June 1964. No specimens have been examined from this area, however, and extensive trapping or mist netting studies are needed to determine the identity of the chickadees that inhabit the higher elevations of this range.

In the Mt. Rogers-Whitetop area of Virginia, F.R. Scott (pers. com.) and Simpson (present study) have observed chickadees whose behavior, song, and plumage suggest their identity as Black-caps. These include breeding season and late summer records of large tame chickadees giving the "fee-bee-ee" song and inhabiting spruce-fir and northern hardwood forests above 1310 m (4300 feet). No specimens have been examined for verification from this area.

Although spruce-fir and northern hardwood forests are found on Roan Mountain, Grandfather Mountain, and on other scattered high elevation peaks in the southern Blue Ridge, I am unaware of any evidence suggesting that Black-capped Chickadees occur

in these areas. These ranges probably do not contain enough high elevation terrain to support a disjunct population of Black-caps.

DISTRIBUTIONAL AND ECOLOGICAL HISTORY

A number of birds inhabiting the southern Appalachians have restricted breeding ranges, but their distribution usually is understandable on the basis of habitat selection and elevation. The Golden-crowned Kinglet (*Regulus satrapa*) and Red-breasted Nuthatch (*Sitta canadensis*) occur at elevations above 1100 m in forest with spruce, fir, hemlock (*Tsuga canadensis*), and rarely white pine (*Pinus strobus*). The Saw-whet Owl (*Aegolius acadicus*) apparently requires spruce-fir woods, while the Olive-sided Flycatcher (*Nuttallornis borealis*) has been observed in both spruce-fir and hemlock stands. In contrast, the complexity of the Black-cap's disjunct range in the southern Blue Ridge is best understood by tracing the probable history of the bird during the period following the last ice age.

During the Pleistocene glacial period, when the polar ice sheet extended as far south as Ohio, many northern plant and animal species were driven into the southeastern portion of the United States. During this time, the Black-capped Chickadee probably occurred through much of the area now occupied by the Carolina Chickadee (Brewer 1963). When the glaciers eventually began to retreat and the climate started to warm, the boreal flora and fauna moved northward, leaving many disjunct or isolated populations in the southern Appalachians, where ecological conditions were suitable for their survival into modern times. While the population center of the Black-capped Chickadee shifted to the northern portion of the United States, the isolated Black-caps of the southern Blue Ridge gradually retreated to higher elevations in the mountains. Eventually the valleys and lower slopes were invaded by Carolina Chickadees, while the Black-cap's range became restricted to medium and high elevations. As the warming trends continued, the Black-capped Chickadee declined further in numbers and distribution, steadily forced by climatic changes to retreat into the highest portions of the Blue Ridge Mountains. Because the birds are largely sedentary in this region, movement of individual Black-caps from one isolated mountain range to another was probably minimal, thus preventing the replenishment of the species in localities where natural disasters or competition with Carolina Chickadees had reduced its numbers. In mountain ranges where there was insufficient high elevation terrain to support a stable, reproductively isolated, and self-perpetuating population of Black-caps, the species eventually was reduced in numbers and swamped out through direct competition and possibly through hybridization with the Carolina Chickadee. The species survived into modern times only in those mountain ranges containing enough high elevation terrain to support a sufficiently large population to compete successfully. Thus the critical factor in its distribution may be the amount of suitable woodland habitat above perhaps 1220 m (4000 feet) in a particular mountain range.

This hypothesis accounts for many of the known facts of the species' distribution in the North Carolina mountains. Examination of topographic maps reveals that records of the Black-capped Chickadee are from those ranges which contain the greatest total mass of high elevation terrain. The largest population of Black-caps is found in the Great Smokies, which have the largest area of continuous high elevation terrain in the southern Appalachians. The Black Mountains, despite the superior altitude of the highest peaks, have only a fraction of the land mass found above 1370 m (4500 feet) in the Smokies. Thus Black-capped Chickadees in the Mt. Mitchell area would be expected to be at a competitive disadvantage compared to the population in the Smokies. Such appears to have been the case, since Brewster (1886) found the Carolina Chickadee in the lower fringes of the spruce-fir forest and, perhaps prophetically, noted a male Carolina and male Black-cap singing in the same spruce tree. By examining Brewster's specimens, Tanner (1952) found evidence suggesting hybridization, since the tail:wing ratios of birds from the Black Mountains more closely approximate that of the Carolina than do those collected in the Smokies. In contrast to the overlap in the Black Mountains, Tanner (1952) found the two species separated by a zone of 245 m (800 feet) elevation

during the breeding season in the Smokies, suggesting that the Black-cap population in the Smokies is sufficiently large to maintain its competitive advantage in the higher elevations of that range. With the extensive fires and logging in the Black Mountains, the nesting habitat of the Black-caps was reduced even further, apparently to the point that the population was unable to maintain itself in the region and was eventually extirpated.

These facts would account for the absence of the Black-cap in other ranges that contain high elevation peaks, often covered by spruce-fir forests, but which have only a small total area of terrain above 1370 m (4500 feet). The Great Craggy Mountains, New-found Mountains, Pisgah Ridge, Roan Mountain, Grandfather Mountain, and the Nantahala Mountains all have summits above 1525 m (5000 feet), but the total area at these elevations is apparently inadequate to support Black-capped Chickadees in sufficient numbers to compete and reproduce successfully.

UNRESOLVED PROBLEMS

The southern Great Balsam Mountains and the Mt. Rogers-Whitetop area appear to be ecologically suitable for the Black-capped Chickadee, and the previously mentioned observations from these areas suggest that the species might inhabit the region. Trapping or mist netting studies should be undertaken in these areas to determine the identity of the chickadees occurring in the ranges.

The movements and distribution of the Black-cap during the non-breeding seasons have been studied only in the Smokies (Tanner 1952, Stupka 1963), where the birds move to the lower slopes and valleys during the winter, intermingling with Carolina Chickadees that inhabit the lower elevations throughout the year. The possibility of similar vertical migration has not been studied in the Plott Balsam Mountains, and the extent of winter dispersal movements through the southern highlands remains unknown.

An intriguing but not yet investigated possibility is the use of tape recording followed by spectrographic analysis or "voice printing" to determine whether the two species can be distinguished even when they appear to be vocalizing the song of the opposite species. If proven to be reliable, such a technique would greatly simplify future investigations of distribution and dispersal movements in the southern Appalachians.

Recent reports from Virginia suggest that the Black-capped Chickadee may be extending its breeding range into areas previously occupied by the Carolina. Johnston (1971) collected Black-caps at Mountain Lake, Giles County, in woodlands where only the Carolina Chickadee had been found in earlier years. Similar range expansion in the North Carolina mountains should be watched for and properly documented if it should occur.

SUMMARY

The Black-capped Chickadees of the southern Blue Ridge Mountain Province occur as relict disjunct populations isolated from the more northern forms by climatic and vegetative changes following the Pleistocene glacial period. Their survival into modern times occurred only in mountain ranges with a high elevation land mass of sufficient size to support a population capable of reproductive and competitive success. At present, the major population inhabits the Great Smoky Mountains with a smaller number found in the adjacent Plott Balsam Mountains. Black-caps occurred in the Black Mountains until extirpated by fires and logging. The difficulty of identifying the species in the field emphasizes the need for direct examination of individual specimens and measurement of the tail:wing ratio in establishing the presence of Black-capped Chickadees outside their presently known range. Observers should be alert for evidence of breeding, since there are no published nest reports from North Carolina.

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9706 Basket Ring Road, Columbia, Maryland 21045, 18 December 1976.

SPRING BIRD COUNT—1977

HARRY E. LeGRAND JR.

The 1977 Spring Bird Count was one of the most disappointing in many years, due primarily to a very poor spring migration in the Carolinas. Perhaps never before have so many people (a record number) invested so much effort (a record) to find so few birds (fewest number of species since 1969). Despite the record 31 count localities, 514 field observers, 213 field parties, and 1755 field-hours, birders recorded only 250 species and 108,141 individuals. Four new localities were represented on the Spring Count: New Hope River, N.C.; Greenwood County, S.C.; Pilot Mountain State Park, N.C.; and Watauga County, N.C.

Charleston, with 161 species, topped all counts in species, but Morehead City (157), Wilmington (156), and Raleigh (152) also broke the 150 species level. However, it was a rough spring for locality counts, as 19 of the 25 localities taking counts in both 1976 and 1977 declined in species in 1977. In fact, these 19 counts averaged 12 species fewer in 1977 than in the previous year. Only 4 of the 25 localities increased in species number.

Unlike in 1976, when rainy weekends hurt many counts, weather for the 1977 Count was generally favorable. Even though 12 counts reported precipitation, this rainfall came primarily as afternoon thundershowers, at a time when bird and birding activities are slack, and not as steady morning or all-day rain.

There were few rarities reported on the 1977 Count, though the *Roseate Tern* at Hilton Head and the *Mississippi Kite* at Roanoke Rapids were exciting finds. Other notable records were *Merlins* at two inland localities, two *American Golden Plovers* at Wilmington, *Willetts* at three inland sites, an unidentified *jaeger* at Morehead City, two singing *Philadelphia Vireos* at Winston-Salem, and a *Brewster's Warbler* hybrid at Raleigh. On the negative side were the failures to tally *Great Black-backed Gulls* or *Pine Siskins* (not really expected this spring), and *Greater Yellowlegs* were recorded from only three inland counts! Especially noteworthy was the very low total of 43 *Ruby-crowned Kinglets*. The severe winter of 1976-77 apparently eliminated much of the wintering population in the Carolinas and farther south, leaving few to be seen on the Count. Undoubtedly the major disappointment of the Count was the overall scarcity of migrants, especially warblers. Many compilers mentioned that the spring migration this year was one of the poorest that they had ever seen.

NOTICE TO COMPILERS AND OBSERVERS

In accordance with the economy measures stated in the Summer *Chat* (41:57), the 1977 Spring Bird Count is being reported in summary form without a table. The table may be published at a later date. At present it is in the files of the CBC Records Committee.

At the Black Mountain CBC meeting 7-9 October 1977, the Executive Board met with Eloise Potter and Harry E. LeGrand Jr. to discuss the future of the bird counts. The Board voted to support continued publication of the count tables. John O. Fussell III volunteered to compile the count tables, and LeGrand indicated willingness to edit the bird counts even if they do not appear in *Chat*. President Barbara Lee appointed a committee consisting of Walter Holland, Fran Baldwin, and Ramona Snively to investigate printing costs. Tentative plans call for typing camera-ready copy, printing on inexpensive paper, and mailing as a supplement to *The Chat*.

Christmas Bird Count forms have been distributed to compilers, who are requested to return completed reports to Eloise Potter as usual. We regret the confusion and hope our long-suffering compilers will bear with us while we try to decide what course of action will be best for the future of CBC.

Christmas Bird Count dates: 17 December 1977 - 2 January 1978.

COMPILERS' COMMENTS

COAST

MOREHEAD CITY, N.C.: Center unchanged. 23 April. 0400-1900. 157 species; 8017 individuals; 15 observers in 8 parties plus 3 yard observers; 72 field-hours; 27 field-miles by foot; 140 field-miles by car.—The four *Anhingas* (Compiler, Kevin Hintsa) were seen in flight near Walkers Mill Pond and might possibly be breeding there. Robert Hader saw the *jaeger* (sp?) in flight at Fort Macon State Park; thought to be a Parasitic. All five *Yellow-crowned Night Herons* were adults. No longer unusual in the area are *Black Rail*, heard by the Compiler at North River, and the *White-rumped Sandpiper* and *Long-billed Dowitcher*.—JOHN O. FUSSELL III, P.O. Box 520, Morehead City, N.C. 28557.

WILMINGTON, N.C.: Center unchanged. 23 April. 0500-1700. 156 species; 8497 individuals; 22 observers in 8 parties; 72 field-hours; 21 field-miles by foot; 315 field-miles by car.—Dot Earle found the two winter-plumaged *American Golden Plovers*, in direct comparison with six Black-bellied Plovers, in the grass of the Saline Plant yard. One bird was seen by numerous observers the following 2 days. Unusual count period sightings were a *Swallow-tailed Kite* (John Hardwick, 25 April), *Mississippi Kite* (Ricky Davis, no date given), and *Broad-winged Hawk* (Kitty Kosh, 24 April).—FRANCES NEEDHAM, Box 8207, Wrightsville Beach, N.C. 28480.

CHARLESTON, S.C.: Center unchanged. 1 May. 0530-2030. 161 species; 9100 individuals; 33 observers in 9 parties; 76 field-hours; 58 field-miles by foot; 170 field-miles by car.—The male *Cape May Warbler* was observed by Dennis Forsythe and David Chamberlain.—JULIAN R. HARRISON, Biology Department, College of Charleston, Charleston, S.C. 29401.

HILTON HEAD ISLAND, S.C.: Center unchanged. 21 April. 0530-2100. 115 species; 3057 individuals; 13 observers in 6 parties plus 5 yard observers; 45 field-hours; 17 field-miles by foot; 91 field-miles by car.—The *Roseate Tern* (Donald and Louise LaCoss, Helene Parry, Bill Starr) was resting next to a Common Tern and other gulls and terns on the beach near Singleton's Beach. It was seen through a scope within 35 feet and had paler wingtips and a longer tail than the Common; the bill was almost entirely black.—NANCY CATHCART, P.O. Box 470, Bluffton, S.C. 29910.

COASTAL PLAIN

BEAUFORT COUNTY, N.C.: Center unchanged. 8 May. 0500-2000. 99 species; 2591 individuals; 12 observers in 6 parties plus 2 yard observers; 46 field-hours; 14 field-miles by foot; 162 field-miles by car.—Hugh and Elizabeth Sterling had seen the two *Merlins* in the same area for several days before the count.—GERALDINE COX, Route 1, Box 151A, Merritt, N.C. 28556.

PAMLICO COUNTY, N.C.: Center unchanged. 1 May. 0500-1930. 84 species; 2039 individuals; 5 observers in 3 parties; 35 field-hours; 13 field-miles by foot; 175 field-miles by car.—GERALDINE COX, address as above.

DILLON COUNTY, S.C.: Center unchanged. 1 May. 0700-2000. 65 species; 1163 individuals; 3 observers in 2 parties plus 2 yard observers; 17 field-hours; 4 field-miles by foot; 80 field-miles by car.—*Scarlet Tanager* (Compiler) was seen for the second consecutive year.—JOHN H. WILSON, Box 535, Dillon, S.C. 29536.

FAYETTEVILLE, N.C.: Center unchanged. 1 May. 0500-2100. 121 species; 2224 individuals; 10 observers in 3 parties plus 3 yard observers; 21 field-hours; 16 field-miles by

foot; 65 field-miles by car.—Female *Hooded Merganser* (Compiler, M.E. Whitfield) was seen at the Becker Sand and Gravel Company. These observers found the *Red-cockaded Woodpeckers* and *Bachman's Sparrows* at Fort Bragg in the vicinity of McArthur Road. The Compiler had three *Yellow-crowned Night Herons*, a *Common Gallinule*, and a *Blue-winged Warbler* during count period at the gravel company. The Compiler and J.B. Crutchfield saw a *Double-crested Cormorant* at the gravel company, and Brad Thomason had three *Upland Sandpipers* near River Road, all during the count period.—PHILIP J. CRUTCHFIELD, 901 Montclair Road, Fayetteville, N.C. 28304.

SOUTHERN PINES, N.C.: Center unchanged. 5 May. 0500-2015. 103 species; 1119 individuals; 2 observers in 2 parties plus 7 yard observers; 20 field-hours; 10 field-miles by foot; 112 field-miles by car.—This was the latest date ever for a spring count, and the only unusual birds were late waterfowl.—J.H. CARTER III, P.O. Box 891, Southern Pines, N.C. 28387.

COLUMBIA, S.C.: Center unchanged. 23 April. 0000-1700. 110 species; 4609 individuals; 20 observers in 5 parties; 62 field-hours; 35 field-miles by foot; 135 field-miles by car.—*Fish Crows* were noteworthy.—GILBERT J. BRISTOW, 2921 Blossom Street, Columbia, S.C. 29205.

ROANOKE RAPIDS, N.C.: Center unchanged. 14 May. 0600-2100. 119 species; 3125 individuals; 6 observers in 4 parties; 32 field-hours; 22 field-miles by foot; 75 field-miles by car.—The ten *Double-crested Cormorants* were seen by the Compiler, Eloise Potter, Libbus Carter, and Ricky Davis at Roanoke Rapids Lake. Davis and the Compiler found the *Cattle Egret*, the first for the spring count, at the Johnston Farm. Seven broods of *Wood Duck* ducklings comprised 58 of the 82 birds on the count. Potter, Kevin Hints, and Mark Hints saw the adult *Mississippi Kite* as it was perched in a tree along the Roanoke River at the Johnston Farm. The grayish breast, dark tail, and dark gray back were noted. The *Bald Eagle* was seen in silhouette at Roanoke Rapids Lake at sunset by the Compiler, Potter, and Davis; it was believed to be the same immature that the Compiler saw at this location 2 days prior to count day. The three *Caspian Terns* were seen flying over Mush Island by Carter and the Compiler. One of the two *Cliff Swallows* at the NC 48 bridge over the Roanoke River appeared to be building a nest underneath the bridge in the midst of a large Barn Swallow colony. [Thorough details.—HL.]—J. MERRILL LYNCH, 539 Henry Street, Roanoke Rapids, N. C. 27870.

PIEDMONT

VANCE COUNTY, N.C.: Center unchanged. 23 April. 0345-15:00. 85 species; 2367 individuals; 11 observers in 2 parties plus 14 yard observers; 48 field-hours; 25 field-miles by foot; 90 field-miles by car.—NEITA ALLEN, 152 Lakeview Drive, Henderson, N.C. 27536.

RALEIGH, N.C.: Center unchanged. 7 May. 0430-2000. 152 species; 10,640 individuals; 37 observers in 22 parties; 160 field-hours; 110 field-miles by foot; 165 field-miles by car.—David Whitehurst observed the *Merlin* in flight near the Hillsborough Street overpass on the Beltline; it was gray in color with black and white tail bands, falcon-shaped, and larger than an American Kestrel. The immature *Yellow-crowned Night Heron* (Compiler) was carefully studied at Boneyard Lake, and the *Caspian Tern* (Ricky Davis, Eloise Potter) was heard and seen in flight along the Neuse River. The *Black-billed Cuckoo* was a window casualty at a suburban residence the morning after the count. Jim Mulholland saw the *Warbling Vireo* in low oaks along Lake Dam Road; marks noted were the vireo bill, faint line over the eye, lack of conspicuous wing bars, and the vireo shape and actions. The bird did not call. The *Brewster's Warbler* was seen by Mary Weber in a shrubby area with tall grasses near Lynn Road. The top half of its head was yellow, it had a black eye line and white wing bars, and essentially completely white underparts. [An

excellent description, including colored sketches, was provided for the warbler.—HL] Single *Nashville Warblers* were found by Jane Mullen at Lassiter's Mill and by Whitehurst at Yates Mill Pond. [A neat report with good details.—HL]—R.J. HADER, 3313 Cheswick Drive, Raleigh, N.C. 27609.

DURHAM, N.C.: Center unchanged. 23 April. 0430-1900. 106 species; 4412 individuals; 32 observers in 13 parties plus 2 yard observers; 90 field-hours; 73 field-miles by foot; 274 field-miles by car.—A *Canada Goose* (John and Nancy Spahr) was unusually late. Three *Upland Sandpipers* were seen by Owen and Pat McConnell in an extensive, freshly harrowed field; the birds were still present the following day. John Horn discovered the *Long-billed Marsh Wren* in a roadside hedgerow at daybreak; the streaks on the back were seen well. *Brown Creeper* (Horn) was late at the Duke Forest on 26 April. *Grasshopper Sparrows* and *White-crowned Sparrows* were surprisingly numerous. [Excellent details for all rarities.—HL]—JOHN HORN, Department of Botany, and MARK HUFF, School of Forestry and Environmental Studies, both of Duke University, Durham, N.C. 27706.

NEW HOPE RIVER, N.C.: Center at crossing of New Hope River and Chatham County SR 1700 (Johnson's Bridge). 8 May. 0515-1930. 104 species; 2350 individuals; 24 observers in 11 parties; 60 field-hours; 37 field-miles by foot; 175 field-miles by car.—Bob Deyle flushed the *Sora* and *Long-billed Marsh Wren* from a marsh at Seaforth. The Compiler saw the *Willet* the day before the count at Seaforth Lake; bold white wing markings and distinctive call easily identified the species. The singing *Least Flycatcher* was seen by John Horn, Lance Peacock, and Chuck Roe. [Good details.—HL]—BARBARA ROTH, 7 Lone Pine Road, Chapel Hill, N.C. 27514

CHAPEL HILL, N.C.: Center unchanged. 1 May. 0400-2030. 122 species; 9138 individuals; 65 observers in 22 parties plus 7 yard observers; 224 field-hours; 122 field-miles by foot; 365 field-miles by car.—*Yellow-crowned Night Heron* (W.H. Wagner) was seen on 27 April, and a *Chuck-will's-widow* (Gertrude London) was heard on 2 May. Mrs. Paul Payne saw the *Swainson's Warbler* along New Hope Creek near Erwin Road on 3 May; rusty cap, white line over the eye, dark eye streak, buffy underparts, and lack of wing bars used to identify the bird. Five birders observed the singing male *Nashville Warbler* in willows at the Hogan Farm on count day. [Good details.—HL]—ERIC L. GARNER, 3519 Racine Street, Durham, N.C. 27707.

GREENSBORO, N.C.: Center unchanged. 7 May. 0530-1900. 119 species; 4928 individuals; 24 observers in 8 parties; 74 field-hours; 18 field-miles by foot; 267 field-miles by car.—The *Horned Grebe* (George Smith, Tom Street, Ed Blich) was late for the area. Smith also saw the *Caspian Tern*, noting the large and red bill. Street observed the *Double-crested Cormorant*.—DONALD ALLEN, 2611 David Caldwell Drive, Greensboro, N.C. 27408.

WINSTON-SALEM, N.C.: Center unchanged. 7 May. 0300-1730. 138 species; 5316 individuals; 37 observers in 12 parties plus 2 yard observers; 126 field-hours; 37 field-miles by foot; 40 field-miles by car.—Adult *Little Blue Heron* (Bob Witherington et al.) was seen at Reynolda on 1 May, and two *American Bitterns* were seen there daily from 8 April to 2 May by John Carter and others. The *Cattle Egret* was seen on 30 April by Frederick Probst et al. at the Sewage Treatment Plant. Jim and Pat Culbertson et al. saw the two *Willow Flycatchers* at Washington Park on 14 May, carefully noting the "fitz-bew" song. *Least Flycatcher* (Charles Frost) was observed singing at Reynolda on 14 May. Singing *Philadelphia Vireos* were found on count day by Pat Culbertson and party at Reynolda and by the Compilers at Silas Creek; black eye line from bill through the eye and yellow breast were seen on both birds. The Compilers also found a singing *Warbling Vireo* at Silas Creek, and another singing bird was seen by Zach Bynum and Royce Weatherly at Washington Park. A *Lincoln's Sparrow* was observed by Kevin Hints at Silas Creek on 12

May; field marks noted were cream-colored breast with fine streakings, faint eye ring, and a slightly raised crest, as well as the very secretive behavior characteristics of this species. *Eastern Kingbirds* and *Orchard Orioles* were in unusual numbers this spring. [Excellent details.—HL]—RAMONA R. SNAVELY, 115 Plymouth Avenue, Winston-Salem, N.C. 27104, and FRAN M. BALDWIN, 1030 Englewood Drive, Winston-Salem, N.C. 27106.

STANLY COUNTY, N.C.: Center unchanged. 14 May. 0600-2200. 102 species; 2741 individuals; 14 observers in 7 parties plus 13 yard observers; 45 field-hours; 18 field-miles by foot; 95 field-miles by car.—The Albemarle City Lake was quite low this spring, attracting several species of shorebirds unusual for this area. Three *Semipalmated Plovers* were there on 17 May (Compiler, Lida Burney), and two *dowitchers* (sp?) were seen by John and Vivian Whitlock there on count day. The dowitchers had a stocky body, short legs, white rump patch, and long bill; and their characteristic feeding behavior was also mentioned. [The Compiler stated that the birds were probably Short-billed, and the late date of this sighting (14 May) strongly suggests this species. Observers who find inland dowitchers should make all attempts to flush the birds and record the characteristic call notes (“keet” or “peep” calls of the Long-billed and the “tu-tu-tu” calls of the Short-billed), since inland records of dowitchers, especially the Long-billed, are rather scarce.—HL] A *Willet* was seen on a farm pond west of Albemarle by John and Vivian Whitlock; black-and-white wing pattern, long bill, gray back, and call were noted. Ten *Cliff Swallows* were seen at the Falls Dam by the Compiler and Jack Greene. This is the first record at this location, though a colony has existed at the nearby High Rock Dam for several years.—DAVID A. BURNEY, Route 1, Box 630, New London, N.C. 28127.

IREDELL COUNTY, N.C.: Center unchanged. 14 May. 0700-1830. 101 species; 2718 individuals; 13 observers in 4 parties plus 2 yard observers; 35 field-hours; 22 field-miles by foot; 146 field-miles by car.—The warbler totals were unusually low, due primarily to the lateness of the count date.—SAMUEL A. CATHEY, 130 Park Street, Statesville, N.C. 28677.

CHARLOTTE, N.C.: Center unchanged. 7 May. 0400-2000. 107 species; 3846 individuals; 16 observers in 6 parties plus 1 yard observer; 47 field-hours; 21 field-miles by foot; 157 field-miles by car.—Noteworthy species were *Pileated Woodpecker* (Compiler), singing *Least Flycatcher* (Jack Hamilton), and calling *Fish Crows* (Dick Brown).—DANIEL E. READ JR., 1101 Rosewood Circle, Charlotte, N.C. 28211.

GREENWOOD COUNTY, S.C.: Center at intersection of routes 246 and 34 in Ninety Six. 1 May. 0500-1930. 99 species; 1384 individuals; 2 observers in 2 parties; 21 field-hours; 5 field-miles by foot; 230 field-miles by car.—Two to three *Double-crested Cormorants* have been seen regularly at Lake Greenwood since 17 March. Three of the four *Common Loons* were in breeding plumage; all the *Red-breasted Mergansers* were females. The Compiler identified two female *Greater Scaups* from a flock of 13 Lesser Scaups on the lake on 28 April. The rounded, almost flat heads, and the thicker and more massive heads and necks were compared to those of the Lesser Scaups; observer is very familiar with both species. *Bachman's Sparrow* (Compiler) was seen and heard singing in an overgrown field that appeared to have been clear-cut within the last 10 years. The tern was thought to be a Forster's.—BOB LEWIS, 308 E. Creswell Avenue, Greenwood, S.C. 29646.

GREENVILLE, S.C.: Center unchanged. 7 May. 0700-1600. 61 species; 789 individuals; 6 observers in 3 parties plus 2 yard observers; 9 field-hours [A comparatively poor effort.—HL]; 10 field-miles by foot; 35 field-miles by car.—ROSA LEE HARDIN, Star Route, Cleveland, S.C. 29635.

CLEMSON, S.C.: Center unchanged from previous spring counts. 7 May. 0500-1830. 125 species; 3097 individuals; 6 observers in 4 parties; 37 field-hours; 16 field-miles by foot;

228 field-miles by car.—The only bright spot on the count was lingering waterfowl—a *Pied-billed Grebe* (Sidney Gauthreaux), two *Black Ducks* (Gauthreaux), an *American Wigeon* (Bob and Lisa Lewis), and a bizarre female diving duck (*Aythya* sp?). The latter bird was dark brown in color with a pale eye ring, very long black bill, and grayish wing stripe. Studied by all count participants at extremely close range at a farm pond, the bird was believed to be a mutant or hybrid Redhead.—HARRY E. LeGRAND JR., Department of Zoology, Clemson University, Clemson, S.C. 29631.

PILOT MOUNTAIN STATE PARK, N.C.: Center at parking lot at Pilot Mountain. 3 May. 0500-1730. 69 species; 388 individuals; 5 observers in 2 parties; 50 field-hours; 23 field-miles by foot; 48 field-miles by car.—Two *Marsh Hawks* and a *Red-breasted Nuthatch* were rather late.—E. WAYNE IRVIN, 1510 Lynwood Avenue, Winston-Salem, N.C. 27104.

ELKIN-RONDA, N.C.: Center unchanged. 7 May. 0600-2300. 77 species; 723 individuals; 7 observers in 4 parties plus 3 yard observers; 45 field-hours; 16 field-miles by foot; 85 field-miles by car.—LIN HENDREN, P.O. Box 148, Elkin, N.C. 28621.

CALDWELL COUNTY, N.C.: Center unchanged. 9 May. 0630-1930. 68 species; 1145 individuals; 13 observers in 7 parties plus 9 yard observers; 63 field-hours; 17 field-miles by foot; 55 field-miles by car.—HELEN E. MYERS, 310 Beall Street NW, Lenoir, N.C. 28645.

MOUNTAINS

BREVARD, N.C.: Center unchanged. 7 May. 0700-2000. 98 species; 2845 individuals; 26 observers in 10 parties plus 10 yard observers; 49 field-hours; 24 field-miles by foot; 130 field-miles by car.—The female *Red-breasted Merganser* (Compiler, Susan Holland) was seen on the lake at Camp Straus, and the same observers found the *Least Sandpiper* in a channel at the Brevard airport. [Many compilers submitted details for Least Sandpipers at inland localities. This species is by no means a rare bird in spring and fall at these places; in fact, observers should be able to find them in their area every spring around farm ponds and lake margins.—HL]—WALTER C. HOLLAND JR., 290 Maple Street, Brevard, N.C. 28712.

BUNCOMBE COUNTY, N.C.: Center unchanged. 30 April. 0630-2100. 92 species; 2816 individuals; 12 observers in 6 parties plus 1 yard observer; 48 field-hours; 14 field-miles by foot; 167 field-miles by car.—JAMES R. WARNER, Route 2, Box 1133, Asheville, N.C. 28805.

GRANDFATHER MOUNTAIN, N.C.: Center not chosen. [Please choose one, and stick to that circle; birders on this count in the past seem to have restricted themselves to the mountain and golf course and haven't made full use of the 15-mile diameter circle.—HL] 3 May. 0600-1900. 66 species; 866 individuals; 2 observers in 2 parties; 11 field-hours; 5 field-miles by foot; 19 field-miles by car.—An *Eastern Kingbird* on count day and nine *Ring-billed Gulls* at the golf course on 2 May were unusual for the area. *Carolina Wrens* seemed very scarce and may be in trouble because of the severe winter.—MARGERY PLYMIRE, Box 306, Linville, N.C. 28646.

WATAUGA COUNTY, N.C.: Center at Appalachian Christian Adventist Conference Grounds.[Near which town?—HL] 30 April. 0900-1200 (count terminated early because of dense fog). 21 species; 91 individuals; 20 observers in 5 parties; 15 field-hours; 14 field-miles by foot; 4 field-miles by car.—Dense fog made counting very difficult.—HELEN E. MYERS, 310 Beall Street NW, Lenoir, N.C. 28645.



Roundtable

... with Louis C. Fink

What is a "Valid Nesting Record"?

Recent correspondence with several CBC members indicates considerable confusion regarding the requirements for a "valid nesting record." Reports of attempted or presumed nesting can be based on many things: a male singing and defending a territory, an adult carrying nesting material, adults copulating or engaging in courtship rituals normally performed at the nest site, a nest still under construction, a banded or collected female having a brood patch or well developed eggs in the oviduct, adults feeding preflight young away from the nest, or an abandoned nest of proper description. A valid nesting record, in the opinion of this editor, must be based upon the discovery of an active nest with eggs or young birds. If the record constitutes the first known nesting for the state or a major range extension within the state, it should be documented by additional observers, photographs, or, if circumstances permit, the preservation of the nest in a museum collection. Publication of evidence of attempted nesting, while not as exciting as a report of successful nesting, serves a useful purpose in the ornithological literature. Both authors and readers, however, must be careful to distinguish between indications of probable breeding and positive evidence of nesting.—ELOISE F. POTTER

Christmas Bird Count, Tryon, N.C.: Setting the Record Straight Regarding Pine Siskins

In his comments on the 1976 Christmas Bird Count, Editor Harry E. LeGrand Jr. wrote (Chat 41:37): "I seriously doubt the validity of most of the 230 Pine Siskins from 14 counts; Tryon's 125 are quite unlikely." This statement was based on LeGrand's extensive field work and on reports from active bird students indicating an almost total absence of Pine Siskins in the Carolinas during the winter of 1976-1977.

Martha S. Frederick, compiler of the Tryon bird counts, informs us that Robert Gibbs, "a very competent birder and a retired National Park Service Supervisor, saw at least 110 of these birds near the Pacolet River on count day. Ten more were seen by him and Mrs. Gibbs at their feeder that day." While the feeder birds could have been stragglers from the flock previously counted by Mr. Gibbs, there seems to be no reason to doubt that a large number of Pine Siskins were in the vicinity of Tryon on 30 December 1976. The editors thank Mrs. Frederick for setting the record straight. We hope that Mr. Gibbs and others who reported Pine Siskins on the 1976 CBC understand the reasons for Mr. LeGrand's skepticism and realize that no personal offense was intended.—EFP

Birds and the Wright Brothers

"Birds are the most perfectly trained gymnasts in the world and are especially well fitted for their work, and it may be that man will never equal them, but no one who watched a bird chasing an insect can doubt that feats are performed which require three or four times the effort required in ordinary flight. I believe that simple flight at least is possible to man. ..." So wrote Wilbur Wright from his home in

Dayton, Ohio, in 1899, a few years before he and brother Orville came to North Carolina. The words are taken from one of hundreds of letters in *Miracle at Kitty Hawk, The Letters of Wilbur and Orville Wright*, edited by Fred C. Kelly and published by Farrar, Straus and Young, New York, in 1951.

Still in Dayton, Wilbur wrote about his obsession with flight. "The flight of the buzzard and similar sailors is a convincing demonstration of the value of skill and the partial needlessness of motors."

In the same letter, "My observation of the flight of buzzards leads me to believe that they regain their lateral balance when partly overturned by a gust of wind, by a torsion of the tips of the wings. If the rear edge of the right wing is twisted upward and the left downward, the bird becomes an animated windmill and instantly begins to turn, a line from its head to its tail being the axis."

By 1900, the Wrights had made camp at Kitty Hawk, and Orville wrote to his sister, "We have succeeded in killing two large fish hawks each measuring over five feet from tip to tip; in chasing a lot of chicken hawks till we were pretty well winded; and in scaring several large bald eagles."

Wilbur's note book contains references to the brothers' study of birds. This from 1900, "The buzzard which uses the dihedral angle finds greater difficulty to maintain equilibrium in strong winds than eagles and hawks which hold their wings level. Hawks are better soarers than buzzards but more often resort to flapping because they wish greater speed. A damp day is unfavorable for soaring unless there is a high wind. No birds soar in a calm."

Notes on the Fish Crow Inland and Nest Defense

The article on the "Changing Status of the Fish Crow Inland" (Fink, *Chat* 39:67-71, 1975) has made me pay far more attention to crows than I did in the past. This spring I have listened for Fish Crows from Winston-Salem to the Outer Banks. I didn't hear any at Winston-Salem, but that doesn't mean they were not present. I was just too busy enjoying conversations with CBC friends. Fish Crows were present, but outnumbered by Common Crows, in the areas I covered on the Raleigh and Roanoke Rapids Spring Bird Counts. In both cases I was working near a river.

On 12 April 1977 I heard a Fish Crow calling from a stand of pines on a ridge between Tar River and Cypress Creek near Lake Sagamore in Franklin County, N.C. Fish Crows were heard in the same vicinity on several dates between then and mid-May, but I never found a nest or other evidence of breeding. On 11 May, however, I was surprised to hear distinct Fish Crow calls coming from a roadside thicket only a few feet from my car. The caller was a Yellow-breasted Chat!

On 7 May I heard a Fish Crow calling from the tall pines in my yard. Almost immediately it took flight with a male Common Grackle and an Eastern Kingbird in hot pursuit all the way across the fairway. It continued to call from distant pines for quite some time, but apparently it did not return to my yard.

Nest defense is a fascinating aspect of bird study. Despite the commotion, there usually does not seem to be any physical contact between the defender and the invader. On 22 May I was attracted by the squawks of a Brown Thrasher. A Blue Jay departed hastily, leaving behind a shower of contour feathers, I counted 10 that landed in the driveway and may have missed a few that drifted into the bushes. Obviously the Brown Thrasher hit its target.—ELOISE F. POTTER, Route 3, Box 114 AA, Zebulon, N.C. 27597.

General Field Notes

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JULIAN R. HARRISON, Associate Editor

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White Pelican at Carolina Beach, N.C.

KATHARINE A. ALEXANDER

241 Bradley Drive, Wilmington, N.C. 28401

ANN T. NICHOLSON

Route 3, Box 349A, Wilmington, N.C. 28401

MR. AND MRS. W. PAUL GRANT

Route 1, Box 635, Porter's Neck Plantation
Wilmington, N.C. 28401

21 February 1977

About 1645 on 19 February 1977 we watched a White Pelican (*Pelecanus erythrorhynchos*) for a period of 3 to 5 minutes as it flew over the boat basin and lagoon at the north end of Carolina Beach at the end of Sixth Street. First spotted by Nicholson, it was very quickly confirmed by Alexander and then by the Grants. It was considerably larger than the Eastern Brown Pelicans (*Pelecanus occidentalis*), which were diving for food in the same area and also perching on nearby pilings. The large, very yellow throat-pouch was unmistakable as was a less yellow (but very obviously prominent) bill. The bird was almost completely white, exceptions being the wing tips, portions of the head where the bill adjoins, and the back of the head and neck region. Because the sky was overcast and the light conditions poor, it was impossible to get any consensus on the color of its feet and legs.

It should be noted that earlier, unconfirmed sightings of the White Pelican were made in early January near Wrightsville Beach by Mrs. C. Edwin Rowe. Also Kitty Kosh "thought" she saw one but had such a fleeting glimpse that she could not confirm the observation.

The Mute Swan in North Carolina

ELOISE F. POTTER

Route 3, Box 114 AA
Zebulon, N.C. 27597

12 May 1977

The Mute Swan (*Cygnus olor*) was introduced and naturalized in New York prior to publication of the 1957 edition of the A.O.U. *Check-list of North American Birds*. In recent years the species has invaded the Chesapeake Bay area where it is now wintering (Am. Birds 29:673) and breeding (Am. Birds 29:955).

In view of the southward extension of breeding range, it seems worthwhile to report three immature Mute Swans seen near the dam at Lake Sagamore, near Bunn in Franklin County, N.C., on 2 December 1975. When first seen, the birds were in their threat posture. Although they were predominantly white, the birds had dingy necks, two of the three had

bill that had not yet begun to turn bright orange, and none of the three had prominent black knobs at the base of the bill.

When I left Lake Sagamore, I asked the security guard if anyone had stocked the lake with swans. He was unaware of their presence. The next day the birds could not be found on the lake. I assume they departed with the other transient waterfowl that had been present on 2 December.

There are several published records of free-flying and apparently wild Mute Swans in North Carolina. Eugene Pond reported three in the bight of Cape Lookout on 16 November 1966 (Chat 31:27). Robert Ruiz and party found one on Lake Julian in Buncombe County on 14 April 1973 (Chat 37:108). Louis Fink noted single fall transients at Rocky Mount in October of 1974 and 1975 (Am. Birds 30:52).

I suggest that the Mute Swan be given hypothetical status on the state bird list until additional records make clear the origin of the birds found in North Carolina.

Goshawk at Shining Rock Wilderness Area, N.C.

MICHAEL TOVE
2133 Buckingham Road
Raleigh, N.C. 27607

5 April 1976

At approximately 0915 on 3 April 1976 I observed an adult Goshawk (*Accipiter gentilis*) at shining rocks in the Shining Rock Wilderness Area. The bird, first seen rising out of the trees below, flew up along the ridge for some distance before dropping down, out of sight. From above, the bird was slaty blue on its back, wings, and tail. The long tail had several wide bands across its upper side. As the bird rose, several times it flashed a very pale silver or white under surface. The alternating flap and soar combination coupled with long tail and short wings identified the bird as an *Accipiter*. The silver breast plus very large size eliminates the smaller Cooper's and Sharp-shinned Hawks.

Having spent much time taking hawk counts at Hawk Mountain Sanctuary, I am quite familiar with this species. Other field marks aiding in identification include the bird's general behavior. The bird soared more than it flapped, holding the wings flat across the shoulders and dropping the wing tips. The flapping of this bird was powerful and not hurried, and the wings had a tapered appearance. These characteristics are all considered classic for the species. It is also interesting to note that the bird came out of a heavy spruce and hemlock forested area, the Goshawk's traditional breeding habitat.

Franklin's Gull at Huntington Beach State Park, S.C.

BOB AND LISA LEWIS
308 E. Creswell Avenue
Greenwood, S.C. 29646

20 April 1977

On the afternoon of 26 September 1976, we were birding at Huntington Beach State Park, Georgetown County, S.C. Near Murrell's Inlet at the northern end of the park, we found a flock of at least 300 birds resting on the beach. The majority of these were Laughing Gulls and Royal Terns, but also present were American Oystercatchers; Black Skimmers; Forster's, Common, and Sandwich Terns; and Herring and Ring-billed Gulls. While scanning the flock with a 30X Balscope from a distance of about 150 feet, we noticed in the midst of some Laughing Gulls one bird that immediately stood out from the rest and appeared to be a Franklin's Gull (*Larus pipixcan*).

The bird was noticeably smaller than the Laughing Gulls, and its head pattern was strikingly different. The remnant of the black hood was more extensive, especially around the eye and on the nape; a distinct eye ring was also noted. The bill was black and roughly of the same proportions as that of the Laughing Gulls, but heavier than that of a Bonaparte's. A row of small diamond-shaped marks was present in the distal portion of the folded wing, contrasting with the black background of the wingtips except for their very ends which were white. There was not as much white, however, as we have seen in some illustrations of Franklin's Gull in breeding plumage. The mantle was at least as dark a gray

as that of a Laughing Gull. A low-flying helicopter flushed the entire flock, and when the birds settled we were unable to relocate the Franklin's Gull.

At the time of the observation, the sky had recently become overcast, but sufficient light was available during the entire period. Because we did not observe the bird in flight, its identification as a Franklin's Gull rests on the plumage characteristics noted above, the bill, and the obviously smaller size as compared to the Laughing Gulls.

There is but one other record of the Franklin's Gull in South Carolina, a bird observed by Harry LeGrand near Townville, Anderson County, on 8 May 1975 (Chat 39:92). An earlier record claimed for the state (South Carolina Bird Life, 1970, p. 605) is based on a young female shot at the Catawba River near the N.C.-S.C. border, but in North Carolina (Chat 39:92).

Sabine's Gull in Forsyth County, N.C.

PATRICIA M. CULBERTSON

736 Hertford Road

Winston-Salem, N.C. 27104

12 November 1976

On Saturday, 2 October 1976, my husband Jim and I went to Salem Lake, a 365-acre Winston-Salem water reservoir, to check for fall migrants. The sky was completely overcast, winds were from the north, and it appeared that rain might begin falling at any moment.

While scanning the lake from the end of a 300-foot fishing pier, we saw a small dark-headed gull sitting in the water about 900 feet distant. In the poor light we could not see any detail with our 7 x 35 binoculars, so we waited for the gull to fly. The first flight was short, and the wing pattern was not well seen. When the gull landed on the water it raised its wings and the large black wedges on the wing tips provided the first field mark. The gull made several flights before the light improved enough for us to observe the black wing tips, white triangles, and gray back pattern. After referring to *A Field Guide to the Birds* (Peterson 1947) and to *Birds of North America* (Robbins et al. 1966), we identified the bird as an adult Sabine's Gull (*Xema sabini*).

Immediately Ramona Snively and Fran Baldwin were called. With the aid of Snively's Questar 50X scope we were able to see the yellow tip on the beak and the black outer primaries tipped in white. After photographs had been taken from the pier, we decided to try to approach the bird closer with a boat. The gull allowed the boat to approach very close, and it was then that the head took on a grayer appearance and the black collar became evident. Molt into winter plumage had begun on the forehead. In flight the pure white tail appeared only slightly forked.

Many bird students saw the Sabine's Gull and confirmed our identification. The bird was photographed by several people, including E. Wayne Irvin who took the picture that appears on the front cover of this magazine.

The water reservoir on which the bird appeared is equipped with strategically located aeration systems that tend to attract forage fish, especially thread-fin shad (*Dorosoma pretenense*). The gull seemed to show a preference for these locations and appeared to rely heavily on these fish as a source of food.

The Sabine's Gull remained at the lake for 5 days, being seen last on 6 October 1976.

According to R.M. Lockley (Ocean Wanderers: The Migratory Sea Birds of the World, 1974, p. 66, 142, and 143), the Sabine's Gull breeds circumpolarly in the high Arctic and migrates in fall to spend the winter at sea generally south of the equator. Large numbers of these gulls move southward offshore along the Pacific Coast of North America to reach the food-rich waters of the Humbolt Current off Chile and Peru. Because relatively few Sabine's Gulls winter in the western part of the south Atlantic Ocean, the species is only a casual spring and fall transient on the East Coast. It rarely occurs inland.

A Sabine's Gull was reported on 27 May 1972 offshore at Coquina Beach, N.C., by Robert Ake (Am. Birds 26:750). The Forsyth County sighting is the first inland occurrence for North Carolina and the first record for the state to be supported by a photograph.

BRIEFS FOR THE FILES

Compiled by ROBERT P. TEULINGS

Route 6, Box 191
Chapel Hill, N.C. 27514
(All dates 1977)

COMMON LOON: Good inland counts were 47 recorded at Lake Greenwood near Greenwood, S.C., on 30 March by Bob and Lisa Lewis, and 17 found at Lake Hartwell near Clemson, S.C., on 30 April by Harry LeGrand.

RED-NECKED GREBE: One was present from early February through mid-March on Forest Lake near Fayetteville, N.C., reported by Phil Crutchfield.

DOUBLE-CRESTED CORMORANT: A large flock of over 600 was seen congregated on South Carolina's Santee River just below Lake Marion Dam on 2 April by Bob and Lisa Lewis.

CANNET: A late individual was seen off Cape Point, Hatteras Island, N.C., on 30 May by Joe Hudick.

GLOSSY IBIS: One was an unexpected inland visitor near Chapel Hill, N.C., 3 April, observed by Helmut Mueller; and another was seen flying over Wallace's Pond near Fayetteville, N.C., on 7 June by Phil Crutchfield.

AMERICAN FLAMINGO: Five were seen at Morris Island near Charleston, S.C., on 8 May by J.W. Nichols.

NORTHERN SHOVELER: Two were an uncommon find at Lake James in Burke County, N.C., on 21 March by Tom Haggerty.

HARLEQUIN DUCK: Four were rare and unexpected visitors on Lake Hartwell near Madison, S.C., on 8 March, identified by Lewis Stubbs, Henry Stubbs and Linda Shivers. This appears to be the first inland record of the species for the Carolinas.

BLACK SCOTER: An unusual inland occurrence of three was recorded at Lake Greenwood, S.C., on 30 March by Bob and Lisa Lewis. A late coastal straggler was seen at Morehead City, N.C., on 27 May by Clark Olson.

COMMON MERGANSER: In western South Carolina flocks of 10 and 14 were observed at Lake Hartwell off Oconee Point, Oconee County, on 5 March and near Clemson on 12 March by Sid Gauthreaux, Harry LeGrand, et al.

RED-BREASTED MERGANSER: Jim Mulholland reported over 100 present at Lake Wheeler near Raleigh, N.C., on 30 March. Other notable inland counts were 32 recorded at Lake James in Burke County, N.C., on 21 March by Tom Haggerty, and 47 seen at Lake Greenwood, S.C., on 1 May by Bob Lewis.

SWALLOW-TAILED KITE: Joe Hudick reported two present in the Buxton, N.C., vicinity during May, again giving an indication of possible nesting on the Outer Banks. Elsewhere along North Carolina's coast, an early and locally unusual sighting of a single bird was noted at Long Beach on 19 March by Sam and Isabel Tipton, and another individual was seen at Harkers Island by Skip Prange and two other observers on 14 May.

- GOSHAWK:** One was a noteworthy find at Oak Island, N.C., near Long Beach on 9 March, observed and photographed by Bill Brokaw. The bird seen was an immature.
- GOLDEN EAGLE:** An adult was seen soaring over a residential section of Greenville, S.C., on 15 April by Bill and Ruth Grimm.
- PEREGRINE FALCON:** One was observed near Clemson, S.C., on 27 April by Patty Gowarty, a rare non-coastal sighting.
- MERLIN:** One was a good find in the Clemson vicinity on 22 April by Harry LeGrand.
- SANDHILL CRANE:** One was recorded as a rare spring visitor near Townville, S.C., on 12 March by Sidney Gauthreaux, Harry LeGrand, et al.
- SORA:** A migrant was late and locally unusual on 16 May at Winston-Salem, N.C., observed by Charles Frost et al.
- SEMPALMATED PLOVER:** Individuals were recorded as uncommon inland spring migrants on 1 May at Beaverdam Reservoir north of Raleigh, N.C., by Clark Olson; at Roanoke Rapids Lake near Vulture, N.C., on 15 May by Merrill Lynch; and at the Becker gravel pits near Fayetteville, N.C., on 9 May by Phil Crutchfield and M.E. Whitfield.
- AMERICAN GOLDEN PLOVER:** One was present in the Columbia, S.C., area 10-13 April, observed by Brian Cassie, Charles Whitney, and Jeannine Angerman. Another rare inland transient was found on 10 April by Harry LeGrand at Clemson, S.C., where the bird lingered for more than a week.
- BLACK-BELLIED PLOVER:** An inland transient was found at the Winston-Salem, N.C. sewage treatment plant 27-28 May by Ramona Snavelly and Charles Witherington.
- LONG-BILLED CURLEW:** One was seen at Ocracoke Island, N.C., on 13 May by Joe Hudick.
- UPLAND SANDPIPER:** Surprising numbers of this uncommon migrant were seen in the Carolinas during the spring period. Reports were received from 11 coastal and inland locations, highlighted by observations of three visitors at Fayetteville, N.C., on 25 March by Phil Crutchfield, 11 in the Columbia, S.C., area on 9 April by Brian Cassie and Charles Whitney, and a tally of eight in the Clemson vicinity by several observers between 30 March and 21 April.
- WILLET:** A flock of 25 was seen at Lake Hartwell near Clemson, S.C., on 9 May a remarkable inland count.
- RED KNOT:** An estimated 2000 were seen on the sand flats at Ocracoke Island, N.C., on 13 May by Joe Hudick.
- WHITE-RUMPED SANDPIPER:** Four were present 26-27 May at the city sewage treatment plant in Winston-Salem, N.C., observed by Royce Hough et al.
- DUNLIN:** An individual was found well inland near Pendleton, S.C., on 30 March by Harry LeGrand, a first local spring record. Another inland migrant was seen at Beaverdam Reservoir near Raleigh, N.C., on 1 May by Clark Olson.
- NORTHERN PHALAROPE:** A female in full breeding plumage was seen at Winston-Salem's sewage treatment plant 25-26 May by Ramona Snavelly, Fran Baldwin, et al.

Another was seen inland near Fayetteville, N.C., on 23 May by Phil Crutchfield, Henry Rankin, and M.E. Whitfield.

GLAUCOUS GULL: An individual in adult plumage was seen near Frisco, N.C., on 13 March by Joe Hudick, and an immature gull believed to be of this species was seen by the same observer at Cape Point on Hatteras Island, N.C., on 27 March.

ICELAND GULL: One was present at Cape Point, Hatteras Island, N.C., 5-13 March, observed by Joe Hudick.

LAUGHING GULL: Three were recorded inland at Greenwood Lake near Greenwood, S.C., on 19 April by Bob and Lisa Lewis, and one at Raleigh's new Beaverdam Reservoir on 24 April by Jim Mulholland.

BONAPARTE'S GULL: Approximately 100 migrants were seen at Lake Greenwood, S.C., on 1 March by Bob and Lisa Lewis. Elsewhere at least 200 were seen at Lake Wheeler near Raleigh, N.C., on 30 March by Jim Mulholland.

FORSTER'S TERN: One was an uncommon inland visitor at Lake Greenwood, S.C., on 20 April, observed by Lisa and Bob Lewis. Another was seen on 11 April and two on 29 April at Lake Wheeler near Raleigh, N.C., by Jim Mulholland.

COMMON TERN: Five were uncommon inland visitors on 16 April at Roanoke Rapids Lake, N.C., observed by Merrill Lynch.

CASPIAN TERN: Two were seen at Lake Hartwell near Clemson, S.C., on 14 April by Harry LeGrand, and another there on 30 April by Sidney Gauthreaux. At other inland lakes, single migrants were seen at Beaverdam Reservoir near Raleigh on 24 April by Jim Mulholland and at Lake Greenwood near Greenwood, S.C., on 1 May by Bob and Lisa Lewis. Three were seen at Roanoke Rapids Lake, N.C., by Merrill Lynch on 15 May.

GRAY KINGBIRD: One was seen at Isle of Palms, S.C., on 31 March by Patty Gowarty, and another at Atlantic Beach, N.C., on 3 June by John Fussell.

BANK SWALLOW: Six were late and uncommon migrants at Chapel Hill, N.C., on 11 May, observed by Jim Pullman.

CLIFF SWALLOW: An individual seen on 10 May at Southern Pines, N.C., by Jay Carter was late and locally unusual.

PHILADELPHIA VIREO: One was seen at Harkers Island near Beaufort, N.C., on 14 May by Skip Prange, a rare coastal spring sighting.

PROTHONOTARY WARBLER: Early individuals were found at Greenwood State Park near Greenwood, S.C., on 25 March by Bob Lewis and 31 March at Pendleton, S.C., by Harry LeGrand.

SWAINSON'S WARBLER: A singing male was present as early as 2 April at Fairlawn Plantation, Charleston Co., S.C., reported by John Cely and Paul Hamel.

NORTHERN PARULA: A locally early migrant was noted on 19 March at Raleigh, N.C., by Clark Olson.

YELLOW-HEADED BLACKBIRD: An adult male was observed near Piedmont in Anderson County, S.C., on 30 March by Mary Reeves, Gretchen Ellison, and Dorothy Manges.

PINE GROSBEAK: A lone male was seen near Greensboro, N.C., on 17 April by Charlotte Dawley et al.

BACHMAN'S SPARROW: A singing male was observed near Greenwood, S.C., on 1 May by Bob and Lisa Lewis. Individuals also were seen near Louisburg, N.C., on 9 April by Eloise Potter and near Chapel Hill, N.C., on 20 April by Annie Lee Broughton and Johnnie Payne.

LINCOLN'S SPARROW: One was seen at Clemson, S.C., on 13 April by Harry LeGrand. Single transients also were noted at Raleigh, N.C., on 1 May by Clark Olson and at Winston-Salem, N.C., on 12 May by Kevin Hints.

BOOK REVIEWS

The Living Land: An Outdoor Guide to North Carolina. Marguerite Schumann. 1977. Dale Press of Chapel Hill, 210 Hillsborough Street, Chapel Hill, N.C. 27514. 178 p. Paperback. 3 maps, 90 black-and-white photos, index. \$4.25 (plus 4% N.C. sales tax if ordered from publisher).

This attractive and practical guide to 78 natural areas in North Carolina gives for each the location, route, recreational and interpretive facilities, and pertinent facts of geological, biological, and historical interest. Approximately one-third of the book is devoted to each of the three major geographic regions of the state. Many of the lovely photographs are the work of CBC members David and Lida Burney, and the author also acknowledges the assistance of Robert P. Teulings. Miss Schumann writes clearly, concisely, and with great enthusiasm for her subject. If you enjoy being out-of-doors in North Carolina, you should buy two copies of her book: one for your bookshelf and one for the glove box of your car, or one for yourself and one for a friend.

Another book that will add to the pleasure of traveling about the state is *The North Carolina Gazetteer, a Dictionary of Tar Heel Places* by William S. Powell (1968, U.N.C. Press, Chapel Hill, \$5.50, paperback). It even tells how Lizard Lick got its name!—ELOISE F. POTTER

The Web of Adaptation. David W. Snow. 1976. Quadrangle/The New York Times Book Co., 10 East 53 Street, New York, N.Y. 10022. 176 p. Cloth. \$8.95.

Subtitled "Bird Studies in the American Tropics," this book allows the reader to go afield with Dr. and Mrs. Snow in search of bellbirds, manakins, the famous Cock-of-the-Rock, and many other species that perform elaborate courtship displays. Not content just to describe the rituals, the author examines the relationship of various tropical species to their environment. He concludes that fruit-eating birds have a different social organization from insect-eaters because fruit is easily obtained and allows much time to be devoted to courtship. Most of the techniques for bird study described by Dr. Snow can be adapted to the species in our own yards. As the author points out, one does not have to go to the tropics to find a species whose behavior is not well known. This is a delightfully readable book full of ideas about bird behavior expressed so they can be understood by the novice bird watcher and yet appreciated by the professional ornithologist.—ELOISE F. POTTER

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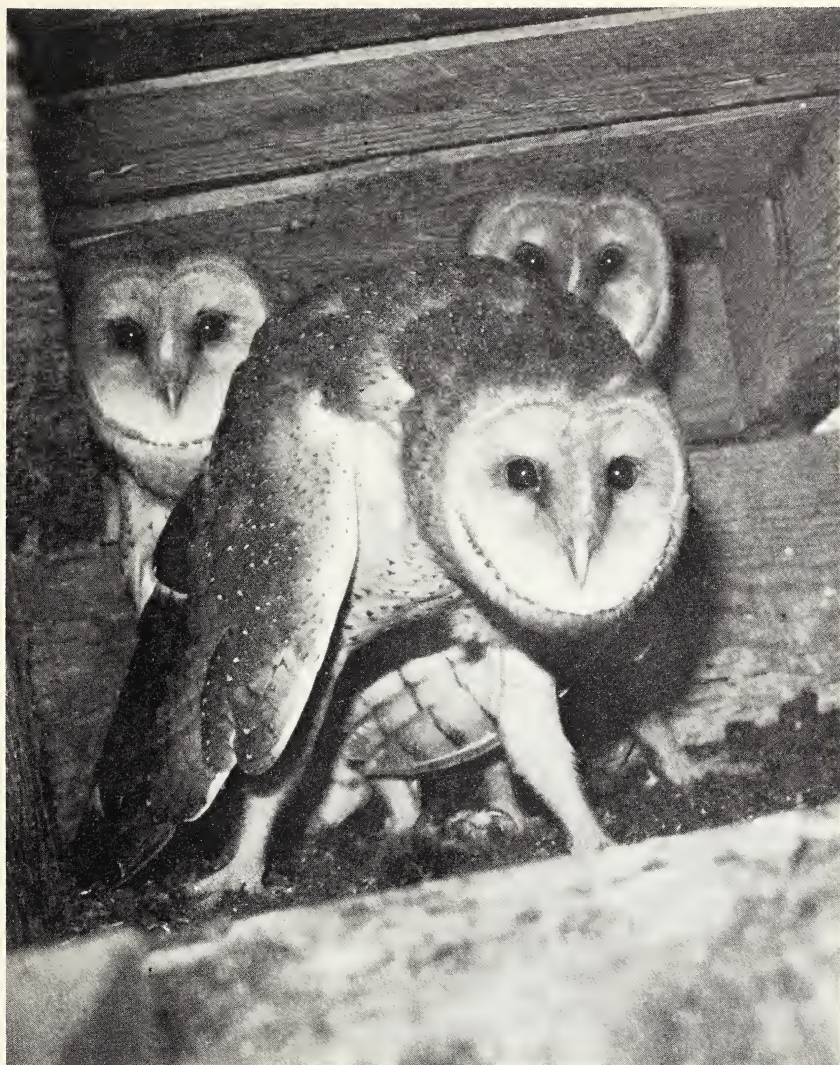
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OUR COVER—CBC members who attended the fall meeting at Black Mountain will recognize the Barn Owls from the color photograph displayed there by Bill Duyck. Bill also showed his own color motion pictures of birds. When not taking bird pictures, Bill works as a fireman.

BREEDING SEASON DISTRIBUTION AND ECOLOGY OF THE VESPER SPARROW IN THE SOUTHERN BLUE RIDGE MOUNTAIN PROVINCE

MARCUS B. SIMPSON JR.

The Vesper Sparrow (*Poocetes gramineus*) is widely distributed as a breeding species through much of Canada, the northern United States, and down the Appalachian highlands into eastern Tennessee and western North Carolina. Although the A.O.U. *Check-list* (1957) gives the southern breeding limit as Weaverville, Buncombe County, N.C., the status of the bird is not well known in the southern Blue Ridge Mountains, where Pearson et al. (1959) list summer records only from the periods 1887-1908 and 1930-1933. The paucity of modern records, the lack of ecological data, and the restricted geographical distribution of previous sightings prompt the present report.

HISTORY

Cairns (1887, 1889, 1891, 1894) regarded the Vesper Sparrow as a fairly common summer resident on high elevation pastures in Buncombe County. Pearson et al. (1959) mention spring and summer records from Blantyre, Transylvania County, in 1908 and Blowing Rock, Watauga County, in 1905 and 1907. Thomas D. Burleigh (pers. com.) found the birds nesting near Swannanoa, Buncombe County, and in the Mills River Valley, Henderson County, from 1930 to 1934. Wetmore (1941) reports specimens collected on Elk Knob, Watauga County, in July 1939, while Stupka (1963) mentions a few records from the Great Smoky Mountains during the breeding season.

PRESENT STUDY

In late July 1970 and late May 1975, I found Vesper Sparrows singing at a number of locales in Ashe, Watauga, and Avery Counties. Eight territorial males were observed in a 25-acre tract of grazed pasture at 1280 m (4200 feet) just N of Pottertown Gap in Watauga County on 28 July 1970, while six males were seen in the same area on 29 May 1975. Four adult birds were singing in a 15-acre pasture at 1365 m (4480 feet) at Pottertown Gap, Watauga County, on both dates. On 28 July 1970, I found 10 adults singing and behaving as if on territory at 1433 m (4700 feet) in a 40-acre section of pasture land on Old Field Bald, Ashe County. Three males were singing on pasture land between 1311 m (4300 feet) and 1433 m (4700 feet) near Yellow Mountain Gap, Avery County, on 29 July 1970. At Newfound Gap in the Newfound Mountains, I recorded two singing males in a pasture at 975 m (3200 feet) on 24 May 1972, with one bird on the Haywood County side and the other on the Buncombe County portion of the crest.

HABITAT

The habitat at all these locales was quite similar and resembled that described by Bent (1968). The birds were occupying steep, heavily grazed pasture lands with closely cropped grass, occasional rocks, and a few widely scattered shrubs. The males perched on the rocks, shrubs, fence posts, and ground while uttering their songs. I have not observed the bird in undisturbed grass balds or cultivated fields in the mountains, and all of my records were from areas above 975 m (3200 feet) with the overwhelming majority above 1280 m (4200 feet). Interestingly, no Song Sparrows were seen at four of the five sites, although they are usually quite conspicuous in similar habitat where Vesper Sparrows are absent, suggesting the possibility of competition between the two species. I have made no effort to look for Vesper Sparrows in the pasture lands of river floodplains at lower elevations, and it seems likely that the species does occur in such areas, because Burleigh found them in this type of habitat at Swannanoa and in the Mills River Valley.

Time limitations precluded any extensive searching for nests, and no breeding evidence was seen.

CONCLUSIONS

The Vesper Sparrow is a summer resident on grazed pasture lands in the North Carolina mountains south at least to Buncombe and Haywood Counties. The bird is particularly conspicuous in the extensive high elevation pastures above 1280 m (4200 feet) near the state line in Ashe, Watauga, and Avery Counties, where it may reach a density of over 25 pairs per 100 acres. Additional studies are needed to determine the entire breeding range of the bird in western North Carolina, and observers should report careful details of any sightings during the nesting season.

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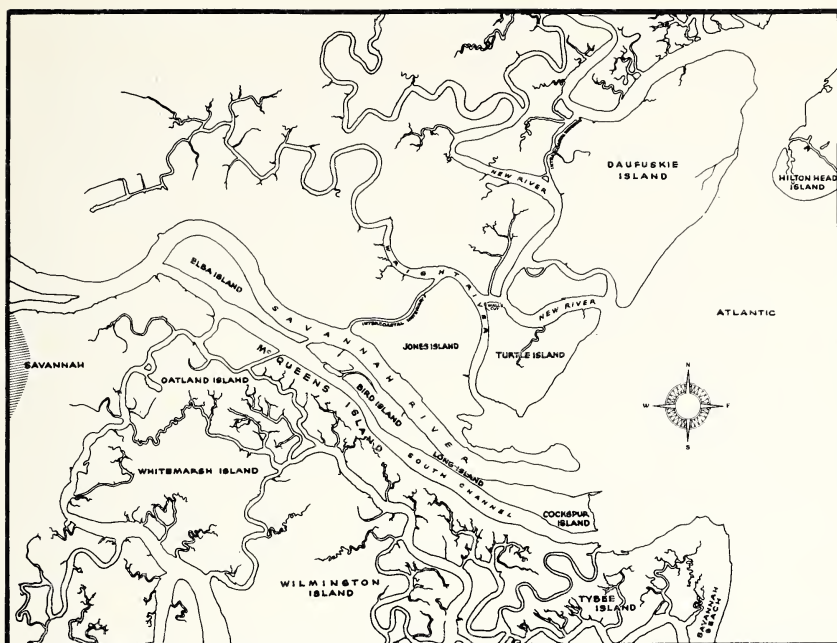


Fig. 1. Map showing location of Turtle Island near the mouth of the Savannah River.

THE BIRDS OF TURTLE ISLAND, S.C.

W. DAVID CHAMBERLAIN

The avifauna of South Carolina's barrier island complex is not well documented. Historically, much of what is known was provided by Wayne (1910) and by Sprunt and Chamberlain (1949). In later years considerable information has been generated by the establishment of annual Christmas and spring bird counts resulting in a data base for Bull's, Caper's, Dewee's, Pawley's, and Hilton Head islands. Additionally, more in-depth work has been conducted on Bull's Island (1972) and Kiawah Island (1975), but the remaining 19 barrier islands do not have adequate exploration. In the interest of providing a broader perspective, the inclusion of a species list for Turtle Island seems of value.

Located just north of the Savannah River mouth in Jasper County (Fig. 1), Turtle Island is South Carolina's southernmost barrier island. It is a small island, accessible only by boat, comprised of approximately 1,745 acres (Warner 1976). The majority of this acreage is *Spartina* salt marsh, but a narrow band of high ground, 140 acres, includes a beach about a mile long (Fig. 2). The vegetation of this area is largely limited to dune associations and a maritime forest (Fig. 3) dominated by pine with palmetto and *Ilex* understory (Stalter 1977).

On 1 December 1975, Union Camp Corporation donated Turtle Island, then valued at more than \$400,000, to The Nature Conservancy. That organization immediately transferred ownership to the State of South Carolina, which now manages the island as part of its Heritage Trust program. Union Camp, a leading firm in the forest products industry,

has made similar generous gifts of natural areas to the State of North Carolina, including the recently acquired Green Swamp Natural Area near Wilmington. Figures 1, 2, and 3 are used through the courtesy of Union Camp.

The species list was compiled from the field notes of the late Ivan R. Tomkins. Tomkins was employed by the Savannah District office of the U.S. Corps of Engineers for 31 years. During his career he worked extensively in the Savannah River delta and was afforded the opportunity of almost daily field study. Tomkins' field work continued after his retirement in 1956 until his death in 1966.

The observations on Turtle Island represent 52 visits over a period of 31 years. It must be remembered, however, that Ivan Tomkins was a naturalist, not a trained scientist. His records are nevertheless accurate and highly detailed, although not quantitative. They do provide interesting, needed information on a relatively unknown area.

Tomkins' bird list is given below with asterisks indicating breeding species. Nomenclature follows the 1957 A.O.U. *Check-list* and its supplements.

Common Loon	*American Oystercatcher
Horned Grebe	Semipalmated Plover
Brown Pelican	Piping Plover
Gannet	*Wilson's Plover
Double-crested Cormorant	Killdeer
Great Blue Heron	Black-bellied Plover
Green Heron	Ruddy Turnstone
Little Blue Heron	Common Snipe
Great Egret	Whimbrel
Snowy Egret	Spotted Sandpiper
Louisiana Heron	Solitary Sandpiper
Yellow-crowned Night Heron	*Willet
*Least Bittern	Greater Yellowlegs
Wood Ibis	Lesser Yellowlegs
Glossy Ibis	Red Knot
Snow Goose	Least Sandpiper
Black Duck	Dunlin
Gadwall	Short-billed Dowitcher
Green-winged Teal	Semipalmated Sandpiper
Blue-winged Teal	Sanderling
American Wigeon	Herring Gull
Northern Shoveler	Ring-billed Gull
Canvasback	Laughing Gull
Scaup Duck	Bonaparte's Gull
Common Goldeneye	Gull-billed Tern
Ruddy Duck	Forster's Tern
Hooded Merganser	Common Tern
Common Merganser	*Least Tern
Red-breasted Merganser	Royal Tern
Sharp-shinned Hawk	Caspian Tern
Cooper's Hawk	Black Tern
*Red-tailed Hawk	Black Skimmer
*Bald Eagle	Barn Owl
Marsh Hawk	*Great Horned Owl
*Osprey	Yellow-shafted Flicker
Peregrine Falcon	Red-bellied Woodpecker
Merlin	Tree Swallow
Sparrow Hawk	Bank Swallow
*Clapper Rail	Barn Swallow
Virginia Rail	Common Crow
Sora	Carolina Chickadee



Fig. 2. Turtle Island's brackish water marsh contains ponds interconnected with a narrow channel system that snakes through the marsh grass. It lies between the barrier island's Atlantic Ocean beach and the high ground in the island's interior. Beyond the high ground is the salt water marsh. The view is to the southwest.

- °Carolina Wren
- °Long-billed Marsh Wren
- Short-billed Marsh Wren
- °Blue-gray Gnatcatcher
- Ruby-crowned Kinglet
- Cedar Waxwing
- Loggerhead Shrike
- Swainson's Warbler
- Northern Parula
- Prairie Warbler

- Palm Warbler
- Bobolink
- °Red-winged Blackbird
- °Boat-tailed Grackle
- Sharp-tailed Sparrow
- °Seaside Sparrow
- White-throated Sparrow
- Swamp Sparrow
- Song Sparrow

Tomkins' findings on Turtle Island are important both from the standpoint of those birds listed and those absent. The total of 103 species is respectable, particularly for an area that did not receive regular intensive investigation. The absence of the Ipswich form of the Savannah Sparrow comes as no surprise, but the lack of such common species as the Cardinal, Savannah Sparrow, Pine Warbler, and Yellow-rumped Warbler seems unusual. Similarly, the Ground Dove and Blue Jay were absent, but this phenomenon has been noticed on other barrier islands (Folk 1938, Tomkins 1965).

The total of 14 breeding species includes the four largest raptors found in the Lowcountry. Observation of an active Red-tailed Hawk nest is significant because the species was long regarded as a non-breeder in the coastal plain (Wayne 1910). The first



Fig. 3. Viewed from the high ground just beyond the ocean front dunes, the brackish water marsh of Turtle Island extends beyond the high ground to the horizon. The view is to the northwest.

Lowcountry breeding record was recorded from Beaufort, S. C., in 1932 (Sprunt and Chamberlain 1949). Tomkins' record from April 1931 can now be regarded as the first.

Eleven raptors were recorded including regular sightings of the Great Horned Owl, Cooper's Hawk, and Merlin. It is interesting that the Peregrine Falcon appears to be uncommon during this period for it was observed only once.

The most unexpected species was a male Swainson's Warbler collected on 4 April 1931. This appears to be the first record of this warbler for a barrier island in South Carolina. Obviously a migrant, the collected bird was prepared as a study skin (specimen no. 296) and sent to the Reading Museum, Reading, Pennsylvania, in 1932.

Tomkins' visits to Turtle Island dropped off sharply after 1950, when he noted that the island was much changed and the beach had silted up. So drastic was the change that the beach breeding species, once counted in hundreds of individuals, were reduced to one pair of American Oystercatchers. His last visit was in May of 1958, completing the longest study to date for this little known barrier island.

ADDENDUM

Recent trips to Turtle Island indicate that the Bald Eagle, Osprey, Red-tailed Hawk, and Great Horned Owl are no longer breeding residents. The Osprey, however, is currently breeding on the southern end of nearby Daufuskie Island.

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ACKNOWLEDGMENTS

The Georgia Historical Society, Savannah, Georgia, is gratefully acknowledged for the use of the Ivan R. Tomkins Collections, and special thanks are given Mrs. Connie L. Stephenson for her help with the materials.

301 McCants Drive, Mt. Pleasant, S.C. 29464, 13 July 1977.





Roundtable

... with Louis C. Fink

Good News on Two Fronts

The venerable *New York Times* reports that the Puffin is coming back to Maine for the first time in 75 years. There were 20 sightings this year, and there is hope that the bird will breed.

The Washington Post reports that Bald Eagles are doing well in the Chesapeake Bay area. Active nests this year numbered 79, up from 73 last year. Sixty-nine eaglets hatched, up from 39.

Georgia Checklist

The Georgia Ornithological Society has published the third edition of its Annotated Checklist of Georgia Birds (\$2.00, G.O.S., 755 Ellsworth Drive N.W., Atlanta, Ga. 30318.) Authors are J. Fred Denton, W. Wilson Baker, Leslie B. Davenport Jr., Milton N. Hopkins Jr., and Chandler S. Robbins. A total of 379 species and subspecies are listed, with details on the status of each. Facing pages give room for personal notes. The book should be valuable for Carolina students.

More Bachman's Warbler Publications

Several articles on Bachman's Warbler have appeared recently in *Chat* and other publications. Those who follow this subject may have missed two articles less readily available than those referred to in the previous sentence. One is "Bachman's Warbler Breeding Habitat—A Hypothesis" (Hamel, Hooper, Urbston, and McDonald), a slide-illustrated paper read to the 1977 meeting of the American Ornithologists' Union and distributed in mimeograph form. The other is "Bachman's Warbler in a Clearcut?" (Shuler) in *The Lesser Squawk* (Vol. XXVIII, No. XI, December 1977), the newsletter of the Charleston Natural History Society. Both articles figure in the current debate about habitat requirements for the Bachman's Warbler and the effects of certain forest management practices upon this endangered species' chances for survival.

Dissertation on Jewelweed

I have a good-sized stand of jewelweed near my back door. Jewelweed is a versatile plant for attracting birds. Hummingbirds seem to prefer nectar of the blossoms to everything else, and that is where I saw the hummers this summer. Rose-breasted Grosbeaks come to enjoy seed, but this fall, for the first time in several years, they seem to have passed me by—at least they were not there when I was looking. But warblers more than made up for the grosbeaks' delinquency. What they get from the jewelweed I have been unable to discover. They don't go to the blossoms, and they don't eat the seed, but get something from the edges of the leaves, something so microscopic I haven't been able to see it, even with the aid of a magnifying glass. They do not eat the leaves themselves, but leave them completely intact. It is a thrill to have the little warblers so close, sometimes right up on the back porch where my jewelweed overhangs it. My latest thrill was having

a Blue-winged Warbler there every day for nearly a week (10-4, 5, 6, 7, 8, 9—don't know if the same one or a different one each day).

The first warbler to show up this fall was the American Redstart, 8-27—then on 9-18, 19, 21, 22, 23 (bird bath). The Yellow-breasted Chat came 9-9; Tennessee, Pine, and Cape May, 9-29; Magnolia, Palm, and Yellow, 9-30; Pine and Magnolia, 10-5; Kentucky and Golden-winged, 10-6. First Ruby-crowned Kinglet, 10-12; Black-throated Blue Warbler, 10-4; Nashville, 10-1; Hooded, 10-1; Wilson's, 10-1; and Orange-crowned, 10-1.

You can well imagine what a pleasure my jewelweed has been to me!—ETTA SCHIFFMAN, 2015 Bluemont Drive, Greensboro, N.C. 27408.

What "Undeveloped" Means

On a cold day in early December, I drove 25 miles due north of Rocky Mount on Route 48 until I saw the signs "Medoc Mountain State Park—Undeveloped."

What a lovely word! "Undeveloped" means that there are an office, an unpaved parking area, free maps, and nothing else except the hiking trail. There are no picnic tables, no soft-drink machines, no swings or slides. I hiked about three miles of the trail down to Little Fishing Creek and back—not a single beer can, no hamburger cartons, no candy wrappers, no cigarette packs. In truth, I saw not a single piece of trash on my walk!

A Writer of Grace

If any readers of this column enjoy graceful, elegant writing that wanders into the world of birds occasionally, I recommend the *Essays of E. B. White* (Harper & Row, 1977). The essays range far and wide; the birds appear naturally:

"A goose's eye is a small round enigma."

"And the visiting birds of spring and fall—the small, shy birds that drop in for one drink and stay two weeks."

"Swallows, I have noticed, never use any feather but a white one in their nest-building, and they always leave a lot of it showing, which makes me believe that they are interested not in the feather's insulating power but in its reflecting power, so that when they skim into the dark barn from the bright outdoors they will have a beacon to steer by."

"I found it spooky yet agreeable to be tailed by a bird, and a disreputable one at that. The Canada jay looks as though he had slept in his clothes."

"By day the goldfinches dip in yellow flight ..."

"Somebody told me the other day that a seagull won't eat a smelt ... I find this hard to believe ... I've always supposed a gull would eat anything."

Recommended Reading

A new booklet by the U.S. Department of Agriculture is "Invite Birds to your home—conservation plantings for the Southeast." Written by Biologist Olan W. Dillon Jr., it has a world of landscaping suggestions and a handy table of foods preferred by familiar birds. Order from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Stock Number 0100-00316. Program aid 1093. (75 cents).

General Field Notes

JAMES F. PARNELL, Department Editor

Department of Biology, University of North Carolina at Wilmington,
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COMMITTEE REPORT

The CBC Records Committee reviewed the literature on the identification of "white-winged" gulls and voted to retain the Iceland Gull on the North Carolina Hypothetical List until a voucher specimen has been obtained. There are several Glaucous Gull specimens for the state. Examining series of white-winged gulls in various systematic collections further supports our belief that these species are often virtually impossible to distinguish in the field and in photographs. The popular American field guides do not indicate the amount of individual variation and, therefore, are not adequate to identify the species of many individual Glaucous and Iceland Gulls. The degree of competence of the observers is not questioned. The decision to require a voucher specimen prior to admitting Iceland Gull or Thayer's Gull (Chat 37:50-51) to either state list is a matter of necessity. We hope that bird students who have struggled with the problem of identifying white-winged gulls in the field will understand the dilemma. We continue to welcome detailed reports of sightings of white-winged gulls from the Carolinas. Several convincing reports are published in this issue of *The Chat*.

CBC Records Committee
November 1977

Iceland Gull at Clemson, S.C.

HARRY E. LeGRAND JR.

Department of Zoology, Clemson University
Clemson, S.C. 29631

6 March 1976

On the morning of 3 February 1976 I observed a white-winged gull in flight at Lake Hartwell, Clemson, S.C. I identified it as an Iceland Gull (*Larus glaucoideus*) because of its dark bill and Herring Gull (*L. argentatus*) size, in addition to its overall whitish-buff coloration with white primaries. As the bird flew south over the lake, it encountered two Ring-billed Gulls (*L. delawarensis*) and chased one of the Ring-billeds for several seconds. The Iceland appeared to be approximately 3 to 4 inches longer than the Ring-billeds.

On the afternoon of 3 February, and nearly every day through 8 February, the Iceland Gull was found in a large flock (about 60 birds) of Ring-billed and Herring Gulls at Lake Hartwell near the J.P. Stevens textile plant. The gulls were usually resting on mud-flats and were studied in great detail by Sidney Gauthreaux, Bob Beason, Frank Moore, Paul Hamel, and me. Most of these observations were made with 20-40X scopes, and excellent size and plumage characters were noted among the three species. The Iceland was whitish-buff throughout, and its size was intermediate between the Ring-billed and Herring Gulls. However, it was a slender bird, its bulk being closer to that of the Ring-

billed. The folded wings projected about an inch beyond the tail. Its most distinctive field mark was the short and dark bill, scarcely two-thirds the length of the Herring Gull's bill, giving the bill a stubby appearance. Actually, the bill was bicolored, with the basal half dark gray or horn color and the distal half black. Nevertheless, at any distance and under most light conditions the bill appeared completely black. The legs were pink. The off-white color of the bird was intermediate in color between the first-year and second-year plumages as depicted in the major field guides. However, data supplied by Hume (British Birds, 1975, p. 24-37) indicate that the gull was likely a first-year bird because of the all dark bill. Photographs were taken of the Iceland Gull in comparison with the Herring and Ring-billed Gulls, but the birds were at too great a distance in the pictures to provide conclusive photographic documentation. Nonetheless, there was not the slightest doubt in any observer's mind that the white-winged gull was an Iceland.

This appears to be the third record of the Iceland Gull for South Carolina, the two previous records being single immatures seen by Burnham and Rhett Chamberlain near Mt. Pleasant on 7 January 1964 (Chat 28:49-51) and by E. Milby Burton near Charleston in late December or early January 1971-72 (Chat 37:60-61; further details not published). This is also the first inland report of the Iceland Gull for the Carolinas and undoubtedly one of the few inland records for the southeastern United States.

A Sight Record of the Iceland Gull from Charleston, S.C.

DENNIS M. FORSYTHE

Department of Biology

The Citadel, Charleston, S.C. 29409

On 15 February 1976, I observed an Iceland Gull (*Larus glaucoideus*) at the Charleston County Solid Waste Reduction Center, Romney Street, Charleston, S.C. The bird was first seen at 0800 loafing with Herring Gulls (*L. argentatus*) and Ring-billed Gulls (*L. delawarensis*) on the landfill 80 m from me. I was able to watch it closely for about 8 minutes in good light, with a 20X spotting scope, and to compare it with nearby Herring Gulls. The black eyes and bill, the relatively small bill and head, and the long wings that extended beyond the tail were clearly seen. The all-white primaries were observed when the gull flew off with the other birds toward the Cooper River. The black bill and all-white plumage indicated that this was a 2-year-old bird. I did not see the gull again.

Another Iceland Gull was seen during this period at Clemson by Harry LeGrand et al. (See above). Both birds probably came to South Carolina during a cold front that occurred on 1 February, as gull numbers in the Charleston area about doubled after the passage of the front (Forsythe, unpub. data). Iceland Gulls have been observed on two other occasions in South Carolina. Single immature birds were observed by Burnham and Rhett Chamberlain at Shem Creek, Mt. Pleasant, on 7 January 1964 (Chat 28:49-51) and by E. Milby Burton near the Carolina Yacht Club in Charleston in late December or early January 1971-72 (Chat 37:60-61). There is also a record of the species from the mouth of the Savannah River. A bird was collected by Ivan R. Tomkins on the Georgia side of the river (South Carolina Bird Life, 1970, p. 604).

These observations were made while conducting research on the attractiveness of milled solid waste to avian species potentially hazardous to aircraft supported by Grant No. 14-16-0008-2024 from the U.S. Department of the Interior and the U.S. Air Force Ecosystem Technology Section.

[NOTE: Burton (Supplement, South Carolina Bird Life, 1970, p. 604) placed the Iceland Gull on the official South Carolina list despite the fact that only a single record was available at that time. This was done on the strength of the outstanding ability of the observers involved and the conditions under which the bird was seen. The three records reported in this issue of *The Chat* support Burton's judgment, but the acquisition of a voucher specimen still would be desirable for a species that is extremely difficult to identify in the field.—JRH]

Iceland Gull at Mt. Pleasant, S.C.

HARRY E. LeGRAND JR.

SIDNEY A GAUTHREAUX JR.

Department of Zoology, Clemson University
Clemson, S.C. 29631

22 July 1977

On 3 April 1977, LeGrand observed an immature white-winged gull on the extensive mudflats at the end of Pitt Street in Mt. Pleasant, Charleston County, S.C. With the help of a 30X scope, he immediately identified the bird as an Iceland Gull (*Larus glaucoides*). The gull was seen at midday near a small flock of Ring-billed Gulls (*L. delawarensis*) and Herring Gulls (*L. argentatus*). Several minutes later Gauthreaux arrived with the Clemson University ornithology class, and he concurred with LeGrand's identification. We observed the Iceland Gull for at least 30 minutes through Gauthreaux's 40X Questar scope. Light conditions were good, and the viewing distance was approximately 250 meters. Paul Hamel and John Cely, who were also with us, ventured out across the mudflats and observed the gull within 75 meters for 45 minutes with binoculars.

The Iceland Gull was quickly separated from the other gulls by its whitish plumage, appearing much paler than the other two species. It was intermediate in size between the Herring and Ring-billed gulls, but it had a more slender body than either. The clinching character was the bill—all dark and stubby, scarcely two-thirds the length of the Herring Gull's bill. The folded wings extended nearly 5 cm beyond the tail, though we feel that this field mark is not a great aid in identification. The gull was also observed in flight as it moved from one spot to another on the flats. The overall whitish plumage, with the white primaries, was clearly noted. We are familiar with both the Glaucous (*L. hyperboreus*) and Iceland gulls, having seen immature Glaucous Gulls on several occasions and having observed an immature Iceland at Clemson, S.C., in February 1976 (see above). The Mt. Pleasant bird seemed identical to the Clemson bird except for the somewhat whiter overall plumage of the former bird. Hamel and Cely noted that the Iceland, because of its small bill, had difficulty in swallowing certain food items that nearby Herring Gulls had no trouble in swallowing. Though neither had seen Glaucous or Iceland Gulls before, they are convinced that the white-winged gull was an Iceland.

Separation of the Iceland and Glaucous Gulls in the field is not an easy task. Hume (British Birds 68:24-37) has summarized the similarities and differences between the two species. Recently there has been considerable controversy in the Carolinas over the field identification of the Iceland Gull (see LeGrand, Am. Birds 31:321). We believe that part of the problem has been the inaccurate descriptions of field marks and the inadequacy of plumage illustrations in various field guides. The major guides say that the Iceland has a *slender* bill; however, the two Icelands that we have seen had bills that were noticeably *short*, giving the bill a *stubby* (not slender) and somewhat dove-like appearance. The all-dark bill also rules out the Glaucous, which always has the basal two-thirds of its bill yellow or flesh in color. The stubby bill, in our opinion, also helps distinguish the Iceland from the immature Thayer's Gull (*L. thayeri*), which has a bill similar in shape to those of the Ring-billed and Herring [based on photographs in Am. Birds 29 (6), front cover and p. 1065, and in The Birds of California, Arnold Small, p. 165]. Despite our failure to collect or photograph the bird, as neither a gun nor a camera was available, we remain fully convinced of our sighting.

Glaucous Gull on Pawleys Island, S.C.

BOB LEWIS and LISA LEWIS

308 E. Creswell Avenue
Greenwood, S.C. 29646

31 August 1977

On 23 January 1977 we were birding on Pawleys Island, Georgetown County, S.C., when I saw a very pale gull about a mile to the north resting on a sandbar. The time was

late afternoon; skies were clear and there was plenty of light available.

We hastened up the beach and eventually got to within 100 yards of the bird. Using the 80X Questar telescope, we were certain that the bird was either an Iceland or Glaucous Gull (*Larus glaucoideus* or *L. hyperboreus*). We saw a large gull with entirely white plumage, except for a small, pale gray portion of the mantle and the folded wings. The total gray area was less than one would expect on an adult Glaucous or Iceland. The bill was pale yellow, except for the front one-fourth of its length, which was black. We believe that the bird was a Glaucous rather than an Iceland for two reasons. In the first case, this was a large, husky bird. It was slightly larger than most of the nearby Herring Gulls (*L. argentatus*), but at least one of the Herring Gulls was equal in size. All the nearby Ring-billed Gulls (*L. delawarensis*) were dwarfed by it. Second, the bill was at least as large in proportion to the head as that of any of the Herring Gulls. In all of the Icelands that we have seen to date (in New York and Massachusetts), we have been impressed by the small size of the bill. Size and plumage indicate that our bird was a second or third year female Glaucous Gull.

Sprunt and Chamberlain consider the Glaucous Gull to be a casual winter visitor (South Carolina Bird Life, 1970, p. 259). They list six records, and Burton adds two more in the Supplement. A more recent record is that of a bird seen on the Litchfield-Pawleys Island Christmas Count of 1974 (Chat 39:10). Records in North Carolina are more frequent. See especially the report for the Southern Atlantic Coast region in *American Birds* (30:705), which describes the heavy influx of white-winged gulls in the Carolinas during the winter of 1975-76.

Willow Flycatcher in Spring on South Carolina Coast

JAY SHULER

P.O. Box 288

McClellanville, S.C. 29458

JOHN TROCHET

1007 Lehman Circle

Houston, Texas 77018

11 July 1977

On 28 April 1977, we saw a small *Empidonax* flycatcher at the edge of Mayrant's Backwater in l'On Swamp, about 20 miles NE Charleston, S.C. Because it sang its "fitz-bew" song repeatedly, Trochet, who is familiar with the species on its breeding ground in Maryland, immediately identified the bird as a Willow Flycatcher (*E. traillii*). As soon as convenient, we played the taped song for comparison and agreed that it could have been no other species.

Prior to 1973, the Willow Flycatcher and the Alder Flycatcher (*E. alnorum*) were considered as subspecies of a single species, Traill's Flycatcher (*E. traillii*). In that year, the American Ornithologists' Union elevated them to the status of species, principally on the basis of song, that of the Willow being rendered as "fitz-bew," that of the Alder as "fee-bee-o" (Auk 90:415-416). The Willow Flycatcher is generally the more western and southern in distribution; the Alder is more northern, its breeding range including New England.

Early in this century, Arthur T. Wayne (Birds of South Carolina, 1910, p. 103-104) recorded Traill's Flycatcher on the coast between 15 August and 30 September. He did not note the song, but collected specimens which he assigned to the subspecies *E. t. alnorum*. The Traill's Flycatcher report on the Aiken, S.C., Spring Bird Count, 2 May 1961, was not collected, nor was its song described (Chat 25:52). Another bird, recovered by Norris (1963, Contributions from the Charleston Museum, 14:31) from the base of a TV tower near Aiken, was identified only as Traill's Flycatcher (*E. traillii*). Happily, the Willow Flycatcher seen on 21 May 1974 near Marietta, Greenville County, S.C., by LeGrand was singing, and its identity is certain (Chat 38:80).

The Willow Flycatcher has not yet been found breeding in South Carolina. Nests of this species are known from two localities in North Carolina (Chat 37:24).

Red Crossbill in June near Charleston, S.C.

JAY SHULER

P.O. Box 288

McClellanville, S.C. 29458

11 July 1977

At 0630 on 8 June 1976, I met the members of a panel studying Bachman's Warbler (*Vermivora bachmanii*) for a tour of l'On Swamp, about 20 miles NE Charleston, S.C. David Marshall (Office of Endangered Species, Washington, D.C.) had just sighted a male and a female Red Crossbill (*Loxia curvirostra*) in the tops of some pines near the edge of the swamp. The birds were calling, and they flew occasionally from tree to tree. With Marshall, panel members Fred Evenden (The Wildlife Society), William Zeedyk (U.S. Forest Service), and I studied the crossbills with binoculars for about 5 minutes. Efforts to relocate them later in the week were unsuccessful.

In South Carolina the Red Crossbill is regarded as a rare and irregular winter resident (South Carolina Bird Life, 1970, p. 521). It is seldom observed on the coast, and decades may pass without records of its occurrence. Arthur T. Wayne (Birds of South Carolina, 1910, p. 115) found Red Crossbills in "great numbers" near Yemassee, S.C., in the winter of 1886-87; a few of these birds remained until 22 May. Several other winter or spring records for the coast are reported in the two sources cited above, but none later than 26 May.

The Red Crossbill has long been known to breed, at least occasionally, in the North Carolina mountains (cf. records summarized by Carter, Chat 40:100). More recently, however, it has been found breeding in that state at localities in the lower piedmont and the upper coastal plain (Chat 38:42-43; 40:100, 105, 110).

Black-headed Grosbeak in South Carolina

PETE LAURIE

1153 Cottage Road

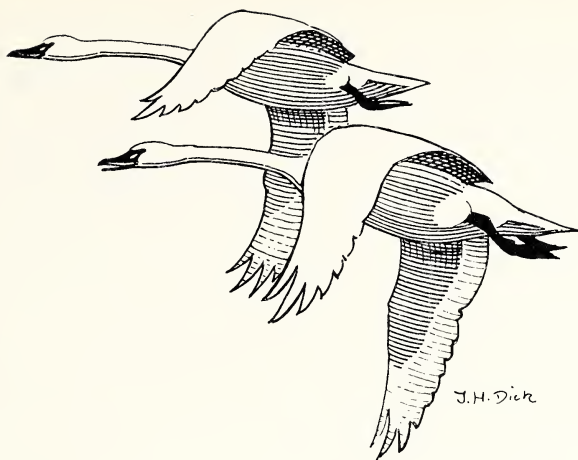
Charleston, S.C. 29412

13 July 1977

On 24 January 1977, Mrs. Allen W. Slifer of Summerville, Dorchester County, S.C., noticed at her feeder a strange bird that she believed to be an adult male Black-headed Grosbeak (*Pheucticus melanocephalus*). Four days later I watched this same bird at the Slifer feeder for about 5 minutes from 50 feet with 7X binoculars. The black head and back, red-orange breast, large white wing bars and spots, and the typical grosbeak beak were unmistakable.

The bird returned to the Slifer feeder (in an open, loblolly pine area) almost daily until late April. It seldom spent more than a few minutes at the feeder, usually in mid-morning. This appears to be the sixth record of this western species from South Carolina; the fifth is represented by the previously unpublished observation of an adult male and female at the feeder of Mrs. B. W. Varner at Yeaman's Hall, Charleston County, on 18 February 1970.

The first Black-headed Grosbeak known from the state was collected on 26 February 1957, at Kingstree, Williamsburg County (Chat 21:91). Three others, two males and a female, were seen at feeders in separate parts of Charleston County in the winter and spring of 1963 (Chat 27:32). One of the males was collected on 1 April 1963, for the Charleston Museum (ChM 63.30).



BRIEFS FOR THE FILES

HARRY E. LeGRAND JR., Guest Compiler
(All dates 1977, unless otherwise indicated)

COMMON LOON: Two were seen on Roanoke Rapids Lake near Vulture, N.C., on 25 July by Merrill Lynch.

PIED-BILLED GREBE: Unusual breeding records for the piedmont of North Carolina were established on 7 August at two localities. R.J. Hader saw a pair with two, and perhaps four, young at Beaverdam Reservoir in northern Wake County, and James Pullman observed an adult with six or seven juveniles near Seaforth in Chatham County. As many as seven adults were seen at the latter site in July by Pullman, Elizabeth Teulings, and Bill Wagner.

DOUBLE-CRESTED CORMORANT: Eleven were present at Roanoke Rapids Lake, N.C., near Vulture on the late date of 6 June, as reported by Merrill Lynch and Harry LeGrand. At least two were seen all summer at Beaverdam Reservoir, Wake County, N.C., and a peak of five occurred on 12 June (R.J. Hader, Jim Mulholland). One also spent the summer at Umstead State Park near Raleigh, N.C., as noted by R.J. Hader.

MAGNIFICENT FRIGATEBIRD: Robert Teulings and Cotting White saw a female soaring over Bear Island, N.C., on 4 June; and an immature was observed in flight near Wrightsville Beach, N.C., on 5 June by Barbara and Ed Wootten.

SNOWY EGRET: One was at Townville, S.C., from 16 July to early August, and another was at nearby Clemson from 23 July into early August (Harry LeGrand). One was seen by Julie Moore and Barbara Roth at Seaforth, N.C., on 23 July. Jim Mulholland also had two at Greenview Farm from 23 to 26 July and one at Lake Johnson on 30-31 July, both in the Raleigh, N.C., area.

LOUISIANA HERON: Rare piedmont sightings were single birds at the upper end of Roanoke Rapids Lake, N.C., on 25 July (Merrill Lynch), near Seaforth, N.C., on 16 July (Jim Pullman, Elizabeth Teulings), and at Winston-Salem, N.C., from 23 to 26 July (Patty Culbertson, Ramona Snavelly).

YELLOW-CROWNED NIGHT HERON: Norman Budnitz, Daniel Kaplan, and Eric Garner found an active nest on 22 May along New Hope Creek in southern Durham County, N.C. Garner watched the nest regularly until 7 July, when a fully-fledged juvenile was seen.

WHITE IBIS: Most unusual was a flock of 16 adults seen flying near Winston-Salem, N.C., on 23 June by Ramona Snively and Bob Witherington. There was an unprecedented dispersal of immatures to inland localities this summer. Among the numerous records were 51 near Ringwood, N.C., on 10 July, with one there on 19 July and two on 21 July (Merrill Lynch); a peak count of 13 at Beaverdam Reservoir in northern Wake County, N.C., on 14 July (R.J. Hader); four flying over residential Raleigh, N.C., on 26 June (Kevin Hints); four at Lake Johnson near Raleigh on 20-21 July (Jim Mulholland) and five at nearby Lake Raleigh on 13 August (Clyde Smith); one at the Research Triangle Park near Durham, N.C., on 26 June and three there on 1 July (Barbara Roth); a peak of four at Chapel Hill, N.C., on 17 July (Jim Pullman, Elizabeth Teulings); two at Salem Lake near Winston-Salem from 22 June to 24 July (Fran Baldwin, Ramona Snively); and four birds at three localities in the Clemson, S.C., area from 16 July into August (Harry LeGrand).

ROSEATE SPOONBILL: An adult was seen at North River marsh near Beaufort, N.C., in late July by Peter van Dooren, fide John Fussell.

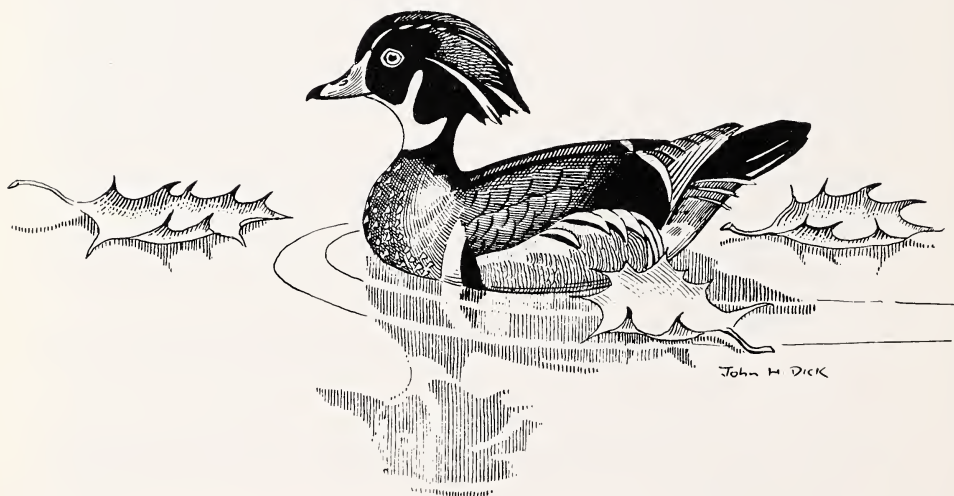
AMERICAN FLAMINGO: Jay Shuler observed two birds, one very brightly colored, the other less so (both in good plumage), on Bird Island just north of Bull's Island in Charleston County, S.C., on 9 June.

BRANT: One was seen near Ocracoke, N.C., on 31 May by Ricky Davis, and Jim Parnell noted two birds in this area in late June.

BLACK DUCK: Eleven birds, including a female with two half-grown ducklings, were seen by Merrill Lynch on 25 July at the upper end of Roanoke Rapids Lake, N.C., a rare breeding record away from the tidewater section of the state.

SURF SCOTER: Jay Shuler saw a female or immature at Moore's Landing in Charleston County, S.C., on the very late date of 10 June.

BLACK SCOTER: A lingering pair of birds were seen at Bird Shoal near Morehead City, N.C., in early July by Bill Hettler.



- MISSISSIPPI KITE:** A moderate number of adults have been seen during the summers of 1976 and 1977 in extreme eastern Halifax County, N.C., and might well be breeding there. Merrill Lynch saw as many as 20 from May through July 1976, and he and Harry LeGrand saw five there on 6 June 1977. John Fussell observed at least three at this locality on 26 June. There is still no known breeding record for the state.
- SHARP-SHINNED HAWK:** Single birds were reported by Sidney Gauthreaux and Harry LeGrand in northern Oconee County, S.C., on 25 June, and by Jim Pullman and Elizabeth Teulings near Seaforth, N.C., on 23 July.
- COOPER'S HAWK:** Merrill Lynch observed an adult near Ringwood, N.C., on 16 July, suggesting the possibility of breeding in that area.
- BALD EAGLE:** An immature was seen at Beaverdam Reservoir in northern Wake County, N.C., from 28 July to 3 August by Bill Lezar, Barbara Lee, and R.J. Hader.
- AMERICAN KESTREL:** Noteworthy breeding season sightings were an adult male seen by Merrill Lynch near Garysburg, N.C., on 13 June; one to two seen frequently near downtown Durham, N.C., during the first three weeks of June by Jim Pullman; and a pair seen regularly all summer on a downtown office building in Winston-Salem, N.C., by Zach Bynum and Royce Hough. Harry LeGrand observed a brood of four recently fledged birds near Cullowhee, N.C., on 2 June.
- VIRGINIA RAIL:** This species was heard on several occasions during the summer near Seaforth, N.C., by Margaret Wagner, and she saw one there in late June, indicating the likely occurrence of breeding in the piedmont region.
- PURPLE GALLINULE:** An injured bird was captured at Radio Island near Morehead City, N.C., on 7 June by Bill Bretz.
- AMERICAN COOT:** A presumed straggler was seen near Seaforth, N.C., on 15 July by Angelo Capparella, Bill Wagner, and Margaret Wagner.
- SEMPALMATED PLOVER:** A very late individual was present near Vulture, Northampton County, N.C., on 6 June, as reported by Merrill Lynch and Harry LeGrand.
- PIPING PLOVER:** Ricky Davis found a nest on Core Banks, N.C., on 26 May.
- RUDDY TURNSTONE:** A rare inland sighting was one in breeding plumage at High Point, N.C., from 11 to 16 August, as noted by Patty Culbertson, Ramona Snively, and Bob Witherington.
- LONG-BILLED CURLEW:** Two were seen at Morehead City, N.C., on 15 July by John Fussell, and presumably the same birds were seen there on 9 August by Mike Tove et al.
- SOLITARY SANDPIPER:** One was somewhat early at Chapel Hill, N.C., on 11 July, as seen by Bill and Margaret Wagner.
- WILLET:** A most unusual inland record was an individual seen near Fayetteville, N.C., on 15 June by P.J. Crutchfield.
- WHITE-RUMPED SANDPIPER:** Ramona Snively and Patty Culbertson carefully observed a single bird at Winston-Salem, N.C., on 26 and 28 July, a rare inland record for the fall season.
- SHORT-BILLED DOWITCHER:** Noteworthy inland records were one at Shaw Air Force Base near Sumter, S.C., on 3 July (Barbara and Wayne Bolton, Carolyn Bosworth); one at Townville, S.C., on 24 July (Harry LeGrand); and two at Winston-Salem, N.C., on 6 and 8 August (Harry and Ramona Snively et al.).
- STILT SANDPIPER:** Two birds were seen at a farm pond in southern Franklin County, N.C., on 2 August by Eloise Potter.
- SEMPALMATED SANDPIPER:** A flock of 15 seen on 6 June near Vulture, N.C., by Merrill Lynch and Harry LeGrand was quite late.
- GLAUCOUS GULL:** An immature seen by Gail Whitehurst on 6 June at Topsail Beach, N.C., was probably the first summer record for the state. The gull was completely white in color and had a pink bill with black tip.

- RING-BILLED GULL:** Most unusual was an immature seen on Cabarrus Street in downtown Raleigh, N.C., on 23 June by Jim Mulholland.
- COMMON TERN:** Two were observed at Salem Lake near Winston-Salem, N.C., on 7 August by Patty Culbertson and Ramona Snively.
- SOOTY TERN:** One was present briefly in a Common Tern colony near Beaufort, N.C., on 8 June, as seen by Ricky Davis, Robert Needham, and Martha Pate.
- BLACK TERN:** John Fussell noted one in breeding plumage at Fort Macon, N.C., on 17 June. Nine birds were found at Winston-Salem, N.C., on 7 August by Patty Culbertson and Ramona Snively.
- GROUND DOVE:** Gene Huntsman saw a single bird at Beaufort, N.C., on 14 June, and John Fussell again noted one to two present in the nearby Fort Macon area this summer; but no evidence of breeding was seen.
- GRAY KINGBIRD:** One bird, presumably a non-breeder, was north of its nesting range at Atlantic Beach, N.C., on 3 June, as seen by John Fussell.
- WILLOW FLYCATCHER:** Harry LeGrand found four birds, apparently a family group, along the French Broad River near Selica, Transylvania County, N.C., on 9 July.
- CLIFF SWALLOW:** One was seen with Barn Swallows at a mud puddle on 5 June at Moore's Landing near Charleston, S.C., by Jay Shuler, well to the southeast of the breeding range. Closer to the nesting range was an individual seen by Jim Mulholland in northern Wake County, N.C., on 12 June.
- COMMON RAVEN:** Four birds, some or all immatures (based on call notes), were seen at Table Rock State Park north of Pickens, S.C., on 11 June by Paul Hamel and Harry LeGrand. The species is believed to be breeding in this area.
- FISH CROW:** Merrill Lynch found positive evidence of nesting in the Roanoke Rapids, N.C., area this summer. In early June a pair flew over a residential area, with one of the birds carrying a large stick. On 13 June adults were seen feeding a juvenile. He noted a peak count of 71 birds at nearby Ringwood on 23 July.
- HOUSE WREN:** Merrill Lynch conducted a survey during the summer and noted that this species was fairly common in towns of Warren County, N.C., eastward to Roanoke Rapids in Halifax County. However, none were found in towns in Northampton, Hertford, and Gates Counties (all in the coastal plain).
- CEDAR WAXWING:** Adults were quite numerous during the summer at Winston-Salem, N.C., and two adults were feeding two nestlings at Salem Lake on 8 July, as reported by Ramona Snively.
- SOLITARY VIREO:** One was heard singing in typical loblolly pine forest habitat near Essex in Halifax County, N.C., on 1 June by Merrill Lynch.
- BLACK-AND-WHITE WARBLER:** Merrill Lynch noted a singing male near Gates, N.C., on 14 June, in a logged-over gum-cypress swamp.
- SWAINSON'S WARBLER:** Harry LeGrand had many records of singing birds in the mountains of northwestern South Carolina and southwestern North Carolina during the summer, including four between Fontana Village and Tapoco in Graham County, N.C., on 13 June. The species seems to have increased greatly as a summer resident over the past decade in the mountains of the Carolinas, occurring almost strictly in rhododendron thickets below 3000 feet.
- BLUE-WINGED WARBLER:** A territorial male was located by Sidney Gauthreaux several miles S of Seneca, S.C., on 7 May, and it was still present on 19 May, when seen by Harry LeGrand. It could not be found on later dates, but it is likely the same bird noted singing at this spot by Gauthreaux on 4 May 1976. The habitat was a moist, shrubby thicket.
- BLACKBURNIAN WARBLER:** A male was singing on territory a mile S of Rocky Bottom, Pickens County, S.C., on 21 May, as seen by Harry LeGrand.
- NORTHERN WATERTHRUSH:** A very early migrant was observed along the Wacca-

maw River near Lake Waccamaw, N.C., on 17 July by John Fussell, Donna Goodwin, and Darryl Moffett.

NORTHERN ORIOLE: Harry LeGrand saw an adult male in Graham County, N.C., between Robbinsville and Tapoco, on 13 June in a hardwood forest. The bird, out of breeding habitat and somewhat to the south of the usual nesting range, is believed to have been a non-breeder.

SCARLET TANAGER: Merrill Lynch found this to be a fairly common summer resident at Medoc Mountain State Park, Halifax County, N.C., and he also had a singing male at White Oak Pocosin in Gates County, N.C., on 14 June.

DICKCISSEL: A territorial male was found by Paul Hamel a few miles S of Easley, S.C., on 15 June, and it was seen on several occasions into July by other birders.

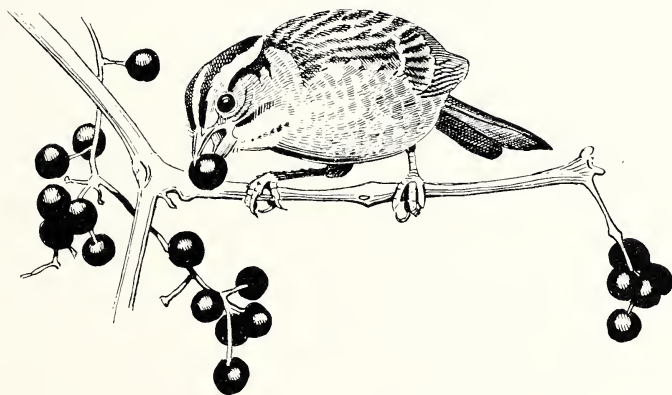
SAVANNAH SPARROW: A very early individual was carefully studied in northern Wake County, N.C., on 3 August by R.J. Hader and Tom Howard.

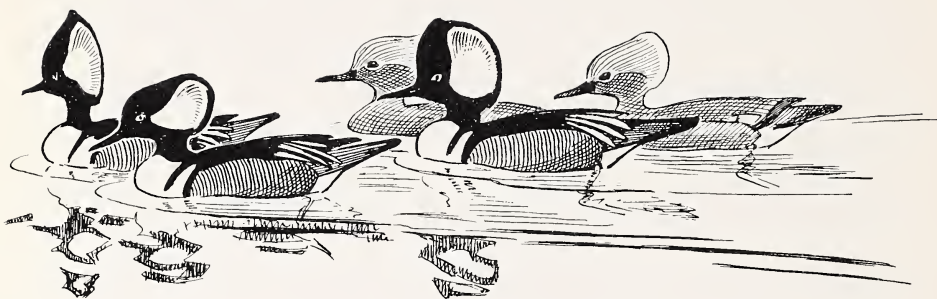
WHITE-THROATED SPARROW: One was heard singing by Elizabeth Clarkson in her yard in Charlotte, N.C., on the late date of 2 June.

SONG SPARROW: A singing male was seen on 2 June in Roanoke Rapids, N.C., by Merrill Lynch.

CORRIGENDUM: The Surf Scoter near Clemson, S.C., was seen on 27 October 1976, and not in November as was reported in Chat 41:52.

Contributors to the "Briefs for the Files" should continue to send their noteworthy sightings to Robert P. Teulings, the regular department editor.





BOOK REVIEW

THE WORLD OF ROGER TORY PETERSON

John C. Devlin and Grace Naismith. 1977. Times Books, Three Park Avenue, New York, N.Y. 10016. 266 p. Illus. Index. \$14.95.

Everyone who uses Peterson field guides regularly probably will enjoy reading a biography of the originator of the series. This book not only presents the facts of Roger Tory Peterson's family, education, and career but also reveals much about his attitudes toward art, bird study, conservation, and life in general. I found most interesting the chapters on his boyhood in Jamestown, New York, where he was born in 1908 of Swedish immigrant parents, and on his young adult years. The first bird guide was published in 1934, and it was an immediate success. Royalties from this and subsequent guides enabled Peterson to write, paint, and travel all over the world. At an age when most men retire, Peterson turned to a new field, gallery painting. The book is illustrated with reproductions of some of these beautiful paintings, a few field guide plates, and numerous black-and-white drawings by Peterson as well as with a selection of personal photographs. Sensitive matters such as Peterson's two divorces are handled tastefully. The authors, on the whole, portray a man of genius and tremendous willpower, but still a man with faults that are shared by those of us who use his field guides and admire his paintings.—EFP

A WORD OF THANKS

This issue of *The Chat* contains reprints of five drawings selected from those contributed by John Henry Dick during the past 15 years. We hope that old CBC members will enjoy seeing them again and that new members will regard them as a special treat. The Editor appreciates the loyal support of our many contributors—artists, photographers, and authors alike.

Every major paper that appears in *Chat* is read by one or more reviewers prior to acceptance, and frequently the Editor needs advice on a wide variety of problems. People who have provided behind-the-scenes assistance during the past 5 years include Oliver L. Austin Jr., Gladys Baker, Charles H. Blake, J.H. Carter III, E.B. Chamberlain, Dennis M. Forsythe, John Funderburg, John O. Fussell III, Gilbert S. Grant, Julian R. Harrison, Joseph R. Jehl Jr., Roxie C. Laybourne, Barbara Lee, David S. Lee, Harry E. LeGrand Jr., Chris Marsh, James K. Meritt, James F. Parnell, Marcus B. Simpson Jr., and Robert P. Teulings.—EFP



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OUR COVER—The Black-necked Stilt was photographed at a nest found by Gilbert S. Grant during his studies of the birds breeding in the Salton Sea region of California. The species also nests along the Carolina coast. Drawings by John Henry Dick appear on pages 36 and 39.

BACHMAN'S WARBLER OBSERVATIONS

CONTINUE IN I'ON SWAMP

JAY SHULER, PERRY NUGENT, JOHN TROCHET, and JOE VAN OS

Reports in 1977 of a male Bachman's Warbler (*Vermivora bachmanii*) at one site, and a female at another, both in I'On Swamp near Charleston, S.C., encourage belief that the endangered species may still occur there.

While watching a hawk's nest near Mayrant's Backwater, 2 April at about 1030, Nugent heard a loud song that consisted of repeated phrases, "zzzzzz-zzzzzz-zzzzzz-zzzzzz," sometimes with a perceptible accent on the end of the final phrase. Immediately he suspected the singer to be a Bachman's. To Nugent, who watched a singing Bachman's Warbler twice in 1969 (The Lesser Squawk XX[12]:2), the monotone quality of the song is distinctive, but difficult to put into words. He feels that this quality has been lost in recorded songs of Bachman's Warbler.

Nugent moved toward the singer and stopped at the edge of a little pond. Presently he located the bird 50 or 60 feet away about 40 feet up in a tupelo (*Nyssa* sp.) that was growing in the water. For about 30 seconds he enjoyed an unimpeded view as it sang from an exposed perch among a dense clump of leafy twigs. He was using field glasses.

The bird's breast was bright yellow, throat black, and chin yellow (see CBC Roundtable, Chat 41:28-29, for a discussion of these features). The yellow of the face extended across the forehead and around the eye. A black cap started behind the yellow brow. Above the dark eye the cap blended into gray and then into bluish gray behind the head. The bird had a detectable ear patch. Its wings, olive like the back, lacked wing bars.

The bird flew and could not be located again that day, but Nugent was certain it was a male Bachman's Warbler.

Word of Nugent's sighting spread among a number of people searching I'On Swamp at the time. Van Os had spent several days at the site when, on 12 April at 1030, he heard a loud song new to him. Like Nugent, Van Os was by then familiar with the song variants of the Northern Parulas (*Parula americana*) with territories at the site, and suspected he was hearing the Bachman's. The song reminded him somewhat of the first phrase of the Blue-winged Warbler (*V. pinus*), and he wrote it down as "buzz-buzz-buzz-buzzip." The singer, invisible in the dense canopy, fell silent before Van Os could catch sight of it.

At 1130 the bird sang again. This time, though the bird was not facing him and was perched in thick foliage about 60 feet away some 50 feet up in a 100-foot hickory (*Carya* sp.) whose lower branches were intertwined with those of a holly (*Ilex opaca*), Van Os obtained a partial view. He saw clearly, with field glasses, that the underparts visible to him were yellow, the back olive, and that the olive wings lacked wingbars. These field marks, and the song, convinced him that he had seen the Bachman's Warbler.

Nugent and a companion, Jeremy James, heard the Bachman's again on 16 April at 1315; but it stopped singing when they approached the tree from which it sang, and they could not find it. Later, Nugent learned that he and James had heard it singing from the same part of the same tree in which Van Os had seen and heard it, about 150 feet from Nugent's 2 April sighting.

Though observers frequented the site throughout April and the first 2 weeks of May, the Bachman's Warbler was not heard again.

Otto Widmann (Auk 14:305-309, 1897), discoverer of the first Bachman's Warbler nest known to science, wrote, "The time of nest building is probably the period of constant song, but after the eggs are deposited the census-taking of the Bachman's population is a time consuming task." Shuler (Chat, in press) used data on 24 nests found by Arthur T. Wayne to show that egg laying probably had begun in more than half of these nests (14) by 31 March. By the time of its discovery, Nugent's bird well may have reached the point in its breeding cycle when its singing would drop off sharply, and it would be difficult to find.

At about 0700 on 17 April, Trochet, who had been searching I'On Swamp for 3 weeks, returned for the third time to a site where a male had been seen in 1976 (Shuler, Chat 41:11-

12, 1977). A rustle of leaves or wings about 15 feet away caught his attention, and he focused his field glasses on a small warbler. It remained in sight for about 2 minutes, moving through the underbrush between 6 and 20 inches from the ground, giving Trochet an opportunity to study it intently. Then from about 25 feet away, it flew deeper into the swamp.

During the period of observation, as the bird flitted and turned, Trochet saw that white patches were visible on the under surface of the tail. The precise color of the undertail coverts could not be made out. Trochet noted the bird's small size, even for a warbler, its thin bill, its generally olive back, gray-olive tail, and dull yellowish belly. The gray-olive wings lacked wing bars, but showed some yellowish at the bend. The cap was olive-gray and the nape and cheeks grayish, setting off the yellow forehead and eye ring. The chin was yellow, eyes dark, and legs medium brown. It was silent. Trochet is certain that it was a female Bachman's Warbler, which is even more elusive than the male. It is not surprising that this bird was not seen again.

The "Nugent" site (N) and the "Trochet" site (T) share a number of habitat features. Both are mature swamp hardwood forest. Trees may reach 100 feet or more in both sites, and canopies are closed except for gaps created by the natural fall of trees to storm, disease, or age. Cypress (*Taxodium* sp.) and loblolly pine (*Pinus taeda*) grow at both sites in close association. Hickory is more abundant than oak at N, while the reverse is true at T. Forest Service records give the birth dates for stands at T as 1900 and 1904. Stands at N may be older.

Patchy understory at N consists mostly of cane (*Arundinaria gigantea*) and swamp palmetto (*Sabal minor*). At T the understory is more varied and extensive. In addition to cane and swamp palmetto, wax myrtle (*Myrica cerifera*), briar (*Smilax* sp.), blackberry (*Rubus* sp.), and other shrubs occur.

At N standing water occurs as small ponds or permanent pools, and as sloughs from Mayrant's. T is flooded seasonally by I'On Swamp Creek, and in dry weather pools form in the creek bed.

The Bachman's Warbler at N was about 100 feet from the forest edge; the warbler at T was about 150 feet from the edge.

Although the habitats at N and T differ in detail, both are consistent with Wayne's descriptions of Bachman's Warbler habitat as summarized by Shuler (Chat 41:19-23, 1977).

ACKNOWLEDGMENTS

We thank John Ramey and Don Mudge, Francis Marion National Forest, McClellanville, S.C., for information on the habitat of the sites, and Dr. Ritchie Belser for permission to visit Fairlawn.

P.O. Box 288, McClellanville, S.C. 29456; 2260 Dallerton Circle, Charleston, S.C. 29407; 7605 Phoenix, Apt. 654, Houston, Texas 77030; and 615 New Jersey Avenue, Palmyra, New Jersey 08065; 18 July 1977.

ECOLOGICAL FACTORS CONTRIBUTING TO THE DECLINE OF BEWICK'S WREN AS A BREEDING SPECIES IN THE SOUTHERN BLUE RIDGE MOUNTAIN PROVINCE

MARCUS B. SIMPSON JR.

Through the latter part of the nineteenth century, the Bewick's Wren (*Thryomanes bewickii*) was a common to abundant summer resident in the North Carolina mountains; but the species has declined considerably during subsequent years and is now infrequently observed in the region.

STATUS IN WESTERN NORTH CAROLINA

In May and June 1885, Brewster (1886) described the Bewick's Wren as "Confined almost exclusively to the towns, where it was usually one of the most abundant and conspicuous birds. It is, in fact, the 'House Wren' of this region At Asheville it was breeding in such numbers that nearly every shed or other out-building harbored a pair" In his journal of the trip, Brewster (1885) listed the species as one of the four or five most characteristic birds in each town he visited during his foray through western North Carolina. From 1880 to 1894, Cairns (1889) found the species to be "Common in the mountains also in the towns. I found it abundant on Craggy Mountain where it ranges over the highest points." Oberholser (1905) apparently paraphrased Cairns' report: "Common in the mountains, chiefly in towns, but ranges also to the tops of the highest peaks."

By the 1930s, however, the Bewick's Wren had declined perceptibly. Thomas D. Burleigh (pers. com.) found the bird to be "rather scarce" around Asheville and noted breeding evidence only twice during the period 1930-1934, although he was in the field almost daily. Later in the same decade, Wetmore (1941) found the bird at only three sites in Ashe and Watauga Counties during July 1939.

In summarizing records from the Great Smoky Mountains, Stupka (1963) considered the species to be a "very uncommon summer resident" based on observations in the Park from 1935 to 1961. Johnston (1964) listed the bird as an uncommon summer resident at Highlands, Macon County, but gave no details. Charles Moore (pers. com.) informed me that the species nested rarely around Brevard, Transylvania County, until the late 1950s and that he had previously seen a pair on occasions at an old shed near Dry Branch, Haywood County, in what is now part of Shining Rock Wilderness Area. Robert C. Ruiz (pers. com.) has not found the species on any breeding bird surveys in Buncombe County during the 1960s and 1970s and considers the bird to be rather rare in the region. Walter Holland (pers. com.) reports no summer records from Transylvania County during the past two decades. Teulings (1973) observed a single bird at Long Hope Creek, Ashe County, on 20 July 1973.

My only observations of the Bewick's Wren during the period 1957-1975 are from four locales. In the late 1950s I found this species nesting during two consecutive summers in a small shed near a picnic grounds at 1220 m (4000 feet) along US 19 in the Plott Balsam Mountains, Haywood County, just E of Soco Gap. On one of these occasions, a nest held five eggs. I watched a single bird singing at the fire tower on Table Rock Mountain at 1190 m (3900 feet) in Linville Gorge, Burke County, on 12 September 1968, although I have never seen the species there on numerous other occasions. I observed a pair near Roaring Creek at 1340 m (4400 feet) just below Yellow Mountain Gap, Avery County, on 29 July 1970. On the NE slope of Steestache Bald at 1455 m (4780 feet) in the southern Great Balsam Mountains, Haywood County, I noted a singing male and a second adult carrying food in an open oak forest bordering the Blue Ridge Parkway on 7 June 1970.

Thus the Bewick's Wren was described as "breeding in such numbers," "common," "conspicuous," and "abundant" in the North Carolina mountains during the 1880s and 1890s; but the species has now become uncommon to rare and is seldom reported in the

region. Although the causes of this decline are not known, several possibilities merit analysis.

FACTORS CONTRIBUTING TO DECLINE

There appears to be no evidence that disease, predation, environmental change, or pollution have adversely affected the Bewick's Wren. Although much of the evidence is circumstantial, the commonly stated reason for the species' decline has been competition with the House Wren (*Troglodytes aedon*), a theory reviewed by Mengel (1965) and Bent (1948).

Some authors have claimed that the House Wren and Bewick's Wren do not occupy the same area without competitive friction and that the more aggressive House Wren often succeeds in extirpating the Bewick's Wren from the area where both occur. As Mengel (1965) has noted, however, there are several problems with documenting this as the sole reason for the decline of Bewick's Wren in many regions. In general, a cause and effect relationship between two events cannot be proven merely because they occur at approximately the same time. Furthermore, while the Bewick's Wren has been extending its range northward in recent decades, the House Wren has simultaneously been expanding southward, so that both species may occur in a broad zone of overlap in many areas of the eastern United States. Mengel further notes that the ecological requirements of the two species are not identical and that alleged incidents of competition usually are not very well documented. In this regard, it is interesting that the pair of Bewick's Wrens that I observed near Yellow Mountain Gap in 1970 were apparently nesting in a farmyard simultaneously occupied by a pair of House Wrens and a pair of Carolina Wrens.

Of greater significance in the southern Blue Ridge area is the evidence that the Bewick's Wren was disappearing from the mountains before the House Wren began to nest in the region. T.D. Burleigh's exhaustive studies in Buncombe County are central to this observation. In the period 1930-34, Burleigh (pers. com.) agreed with Cairns' (1887, 1889, 1891, 1894) earlier assessment that the House Wren occurred in western North Carolina only as an uncommon to rare migrant. In contrast to Cairns and Brewster, however, Burleigh found the Bewick's Wren had become "rather scarce." Burleigh found only two nests during five consecutive breeding seasons of 1930-34, contrasting sharply with Brewster's remark of "abundant" and "breeding in such numbers . . ." Brimley (1940) later stated that the House Wren had begun to nest around Asheville, presumably after Burleigh's departure from the region, and the species is now a regular but not common summer resident in the area. Based primarily on Burleigh's data, it would appear that the Bewick's Wren had decreased significantly in numbers prior to the time the House Wren began to nest at Asheville. Although Burleigh might have overlooked a few local pairs of House Wrens, it is most unlikely that a population small enough to have been missed by his extensive field work could have caused the Bewick's Wren to decline from "abundant" and "conspicuous" to "rather scarce."

Furthermore, the House Wren population in the mountains at the present time does not seem to be large enough to account for the almost total displacement of a bird once called "abundant" in the region. In Buncombe County, Robert C. Ruiz (pers. com.) found 0 to 6 House Wrens but 2 to 24 Carolina Wrens during breeding bird censuses between 1969 and 1975, while spring bird counts from western North Carolina in the past 10 years show approximately 3 to 10 times as many Carolina Wrens as House Wrens. As late as the 1960s, Stupka (1963) could find no positive evidence of breeding by the House Wren in the Smokies and was not entirely certain of its status during the summer months, although he regarded the Bewick's Wren as a "very uncommon" summer resident.

There is actually somewhat better evidence that the House Sparrow (*Passer domesticus*) and Starling (*Sturnus vulgaris*) might have contributed to the extirpation of the Bewick's Wren from the North Carolina mountains. Cairns (1889, 1894) and Brewster (1886) made no mention of the House Sparrow in western North Carolina, although Oberholser (1905) stated that a small group had been seen in Asheville in 1884. The Starling was successfully introduced into America in 1890 and was never recorded in the mountains by

Cairns (1894) or Oberholser (1905). Burleigh (pers. com.) informs me that by the 1930s both the House Sparrow and Starling were common to abundant around Asheville at the same time when Bewick's Wren had become scarce but the House Wren was still only a migrant. The Starling and House Sparrow use habitat similar to that of the Bewick's Wren, namely suburban and farm settings, where they nest in and around houses, barns, sheds, and various other out-buildings (Bent 1948, 1950, 1958). The Starling and House Sparrow are notoriously successful competitors against other species that occur in the same area, and Burleigh's data from Asheville show that the timing of the Bewick's Wren decline apparently correlates more closely with their influx than that of the House Wren.

Since most of my field work has been in the higher elevations, it may be purely coincidental that all my Bewick's Wren records have been at elevations above 1890 m (3900 feet), elevations where the House Sparrow, Starling, and House Wren become increasingly scarce. It is possible, however, that the higher elevations provide habitat where the Bewick's Wren can presently avoid or minimize competition with these more aggressive species.

In fact, all three species may have contributed to the disappearance of Bewick's Wren in western North Carolina. The invasion of English Sparrows and Starlings may have reduced the bird's numbers prior to the arrival of the House Wren in the late 1930s. The subsequent influx of House Wrens would have contributed further to the decline of Bewick's Wren if competition occurred between the two species. Mengel (1965) suggested that competition between the House and Bewick's Wrens most often occurs when the species are at the edge or periphery of their range or inhabiting marginal habitat. In such situations, the House Wren may extirpate the Bewick's Wren. The North Carolina mountains formed the southeastern edge of the Bewick's range, and the influx of House Sparrows and Starlings may have forced it to use suboptimal or marginal habitat by the time House Wrens began to nest in the region. The sequential invasion of all three species may have been sufficient to bring about the observed change in the status of Bewick's Wren in the mountain area. It is difficult to account for the species' changing from abundant to rare solely on the basis of the low density of House Wrens presently occupying the region.

The only other avian species that has invaded the region during this period is the Song Sparrow, but there is little reason to assume that there is any relationship between its arrival and the decline of the Bewick's Wren. These species are not food competitors, and their nesting sites are not similar.

Unfortunately, the lack of systematic field work during the period between Cairns' death in 1895 and Burleigh's studies in 1930 prevents any definitive conclusions about the causes for the disappearance of Bewick's Wren in most of the southern Blue Ridge. The only well-documented fact is the striking decline in relative abundance of the species during the past 75 years.

SUMMARY

Bewick's Wren was described as a conspicuous and abundant summer resident in the North Carolina mountains prior to the 1900s, but the species has subsequently become uncommon to rare in most of the region. While all evidence is circumstantial, the bird may have been adversely affected by the invasion of the House Sparrow, Starling, and House Wren as breeding species. Observers should report any records of this species from western North Carolina.

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Roundtable

... with Louis C. Fink

Beaver Dam Reservoir in Wake County

The new Beaver Dam Reservoir in northern Wake County promises to be an interesting bird-finding area. About 170 species have been seen in the area already even though there has not been an intensive search for migrant land birds. The area is notable for the unusual species it attracts — with such interesting visitors as Short-eared Owl, Rough-legged Hawk, Snow Bunting, and Harris' Sparrow — and for larger concentrations of marsh birds and raptors than one is accustomed to in Wake County.

The reservoir lies in a north-south direction north of the Neuse River and east of NC 50. It is accessible at two points. The first area is at the dam and is reached after a short walk east of NC 50 on a black-topped road (closed by a gate) 0.5 mile N of the Neuse bridge. Here the water is open and deeper than in the area described below and may be expected to attract diving ducks. Red-cockaded Woodpeckers can also be seen here in the pines. The second area lies on both sides of a causeway crossed by Beaver Dam Road (SR 1900) 1.2 miles E of NC 50. The intersection of Beaver Dam Road and NC 50 is 3 miles N of the Neuse bridge at a hamlet called Sandy Plains. The causeway is an excellent area for marsh and other water birds. Sparrows can be seen in the nearby bushy, weedy fields. This is also an especially good vantage point for seeing hawks and swallows. On the east end of the causeway Beaver Dam Road proceeds in a generally southeasterly direction and within a mile another smaller, marshy branch of the reservoir is crossed. A dirt road (SR 1906) leaves the end of the causeway and proceeds in a northeasterly direction. Red-cockaded Woodpeckers may be seen in open pines along this road.

The reservoir filled to capacity during the autumn of 1976. There are numerous no-trespassing signs at some of the above sites, but it seems that the regulation is not now being applied. Workers at the North Carolina State Museum of Natural History are conducting surveys of the wildlife in the area. Visitors are encouraged to send David S. Lee any unusual observations they make in the area.—CLARK S. OLSON, 4822C Bluebird Court, Raleigh, N.C. 27606

Two Million Wild Animals

"Serengeti, in East Africa, a piece of land not much larger than the State of Connecticut, is as close to the Garden of Eden as any place in the world. It is still inhabited by some two million wild animals, the last great herds on earth."

Harold T.P. Hayes explores Kenya, Uganda, and Tanzania in his book, *The Last Place on Earth* (Stein and Day, Briarcliff Manor, N.Y. 10510, \$10). There is little about birds but a great deal about mammals — and about the German zoologist Bernhard Grzimek, who made the saving of Serengeti his personal crusade. Of particular interest are his discussions of the needs for *big* national parks to save wide-ranging animals like the wildebeests, and of the advisability of "cropping," killing surplus animals to make the

(Continued on Page 42)

General Field Notes

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An Observation of a Yellow-billed Common Crow

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At about 1830 on 17 September 1977, while driving south on SC 19 approximately 500 m S of the entrance to the Savannah River Plant in Aiken County, Lohoefer saw on the roadside a crow with a yellow bill. We returned to the area and found the yellow-billed crow and two other crows perched in nearby pines.

Both the upper and lower mandibles of the unusual crow were a uniform shade of yellow (best described as orange-yellow; Smith, A Naturalist's Color Guide, The American Museum of Natural History, New York); the bird's legs, eyes, and plumage appeared normally pigmented. As the yellow-billed crow flew, its call identified it as a Common Crow (*Corvus brachyrhynchos*). We did not see the bird on the following day.

The family Corvidae also includes the Black-billed Magpie (*Pica pica*) and Yellow-billed Magpie (*P. nuttalli*), species differentiated by their bill color differences. While our report might draw only casual interest as a sighting of a rare mutant, it may have an evolutionary significance when viewed with bill color differences of these other corvids in mind.

Our work at the Savannah River Plant was supported by a contract to Jackson from the U.S. Energy Research and Development Administration.

Canada Geese Wintering in Western North Carolina

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Accepted July 1976

Western North Carolina is not known for its overwintering population of Canada Geese (*Branta canadensis*). However, in 1950, 16 birds appeared on Roundabout Farm along the Yadkin River at Ronda, N.C. The farm, owned by R.T. Chatham, has several small ponds and proved to be attractive to the geese. They have returned each year since 1950, and numbers increased to a high of 450 in 1968 (Table 1). Since that time, numbers have fluctuated but have remained in excess of 200 each winter. The geese are fed and protected by Mr. Chatham and represent an unusual occurrence in western North Carolina.

<u>Year</u>	<u>Date arrived</u>	<u>First to arrive</u>	<u>Total</u>
1950	Oct. 3	5	16
1951	Oct. 1	7	26
1952	Sept. 30	6	75
1953	Sept. 28	5	125
1954	Oct. 1	6	140
1955	Sept. 26	8	200
1956	Sept. 27	6	220
1957	Sept. 27	10	280
1958	Oct. 3	4	300
1959	Oct. 2	6	390
1960	Oct. 1	38	420
1961	Oct. 3	6	408
1962	Oct. 15	10	375
1963	Sept. 30	15	385
1964	Sept. 27	23	365
1965	Sept. 20	7	370
1966	Sept. 13	7	380
1967	Sept. 14	5	342
1968	Oct. 2	8	450
1969	Sept. 10	10	390
1970	Sept. 25	9	366
1971	Sept. 23	9	325
1972	Oct. 2	17	250
1973	Oct. 1	9	210
1974	Sept. 23	16	350
1975	Sept. 28	16	335

Table 1. Wintering Canada Goose numbers at Ronda, N.C.

American Avocet Breeding at Pea Island, N.C.

WILLIAM McVAUGH JR.

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Accepted 10 June 1977

On 18 June 1968, two one-day-old American Avocet (*Recurvirostra americana*) chicks were found on the mudflat north of North Field at the Pea Island National Wildlife Refuge in Dare County, N.C. One chick was studied closely in hand (Fig. 1) but the second chick, about 20 feet away, was unapproachable due to deep water. A very agitated adult avocet was nearby.

Approximately 40 adult and immature avocets were present at Pea Island, and Black-necked Stilts (*Himantopus mexicanus*) were also nesting nearby. Several young stilts had been observed previously. A day-old American Avocet and a day-old Black-necked Stilt have much in common in general appearance, but upon close examination several specific differences are noted:

- (1) Avocet—slightly longer recurving bill.
Stilt—straighter bill and a more prominent egg tooth.
- (2) Avocet—small black spot of down in front of each eye and at the base (both sides) of the upper mandible.
Stilt—none.
- (3) Avocet—down on the neck and throat darker, grayish buff.
Stilt—pale gray down on the throat and neck.
- (4) Avocet—body down darker gray.
Stilt—body down pale to medium gray.



Fig. 1. American Avocet chick at Pea Island, N.C., June 1968. (Photo by William McVaugh Jr.)

- (5) Avocet—head and body stripes medium dark.
Stilt—head and body stripes more intense coloration.
- (6) Avocet—under-toe color pale fleshy-gray.
Stilt—under-toe color pale pink.

The toe color is the easiest and quickest way to identify the two species when there is an overlap in their breeding range, as at Pea Island.

[NOTE: While American Avocets have been observed at all seasons at Pea Island for several years, no positive evidence of nesting was available prior to this report. Thus, the avocet, which normally is a breeding bird of western North America (A.O.U. Check-list of North American Birds, 1957), can be added to the list of North Carolina's breeding species.—JFP]

Black-headed Gull in Eastern North Carolina

ANNE REYNOLDS
BRUCE REYNOLDS

Accepted 10 February 1976

On 29 and 31 January and 2, 3, and 4 February 1976, a Black-headed Gull (*Larus ridibundus*) was observed at the Hudles Cut Ferry Terminal on the Pamlico River near Aurora, N.C. The gull was seen in good light on several occasions. It was smaller than a Laughing Gull (*L. atricilla*). Key plumage features were a white head with a black spot behind the eye and a white tail with a wide black terminal band. The eyes were dark, the legs and feet red and the bill red with a dark tip. The wing pattern was that of an immature bird as illustrated in Robbins et al. (1966).

We concluded that the bird was a Black-headed Gull in subadult plumage. The red bill with black tip and the wide black tail band separated the bird from the very similar

Bonaparte's Gull (*L. philadelphia*).

This identification was supported by John Fussell, who saw the bird on 3 February. Photographs were secured by Chris Marsh on 4 February, and a color slide has been deposited at the North Carolina State Museum of Natural History.

[NOTE: Since the time of the above observations, Mr. and Mrs. Reynolds have moved to Oklahoma. Their present address was not available at press time.—EFP]

Burrowing Owl Photographed at Huntington Beach State Park, S.C.

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20 June 1977

On 24 June 1976, a Burrowing Owl (*Speotyto cunicularia*) was seen and photographed by me at Huntington Beach State Park, Georgetown County, S.C. (Chat 41:15). It was called to my attention by Mr. Heimerdinger, a member of CBC who was camped at the State Park.

The owl was at the north parking lot, and it had taken up temporary residence under a concrete slab that was once the cover of a septic tank. Mr. Heimerdinger and I were able to get quite close to the bird, which was giving the familiar "coo-o-o-ing" sound and bobbing up and down in typical Burrowing Owl fashion. The bird was flushed from its place just in front of the slab, whereupon it flew a short distance and on alighting, again gave the sounds and actions of the species. As I was called to Michigan that same day, I did not learn how long the owl stayed in the Park.

Photographs were taken, using a 300 mm lens on a Mamiya/Sekor camera at the closest focusing distance of about 4 m. The slides were sent to John Farrand Jr., at the American Museum of Natural History, in an attempt to determine the subspecific identification of the owl. Mr. Farrand stated that the bird was "almost certainly" the Florida subspecies, *S. c. floridana*, although he could not rule out the possibility of its being from outside the continental United States. He also stated that it definitely was not the western subspecies, *S. c. hypugaea*.

There are but three previous records of the Burrowing Owl in South Carolina. Sprunt and Chamberlain (South Carolina Bird Life, 1949, p. 306) list only a bird seen by Ivan R. Tomkins on 7 December 1943, at Bay Point, near Beaufort, S.C. This owl was identified by Sprunt and Chamberlain as a member of the western subspecies, *S. c. hypugaea*, on the basis that the Florida subspecies "... does not regularly occur north of central Florida and it is not known to be migratory, whereas the Western Burrowing Owl migrates more or less regularly southward after the breeding season." In the Supplement to the 1970 edition (p. 641) Burton refuses to give a subspecific designation. Tomkins (Oriole 26:2) saw another Burrowing Owl in the state on 3 November 1959, at the edge of US 17A, about 2 miles N of the Georgia line, Jasper County, S.C. A third owl was found by Perry Nugent on 30 December 1975, at the U.S. Vegetable Breeding Laboratory near Charleston, S.C. (Chat 40:72). These two birds were not identified to subspecies.

Without specimens, the identification of Burrowing Owl subspecies is difficult if not impossible. Consequently, the identity of the birds discussed herein will probably always remain uncertain. However, a Burrowing Owl collected by Paul Sykes on 14 February 1967, at Salvo, Dare County, N.C. (cited by Fussell and McCrimmon, Chat 38:41), proved to be a member of the Florida subspecies, *S. c. floridana*. This, coupled with the probable identity of the Huntington Beach State Park bird, increases the likelihood that all previous sightings of this species in the Carolinas represent *S. c. floridana*. The owl observed near Ft. Macon, Carteret County, N.C., by Fussell and McCrimmon during June, August, and September of 1972 (Chat 38:41) was not collected.

Cliff and Bank Swallows at a Barn Swallow Colony near Charleston, S.C.

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8 August 1977

On 5 June 1977, I saw a Cliff Swallow (*Petrochelidon pyrrhonota*) fly up with a flock of Barn Swallows (*Hirundo rustica*) from a mud puddle at Moore's Landing, Cape Romain National Wildlife Refuge, Charleston County, S.C. The Barn Swallows were part of a flock of about 30 pairs that nest under the 1000-foot concrete pier at this locality. I assumed the Cliff Swallow was a late migrant, but on 7 July I saw it again. This time it seemed to center its activities near a section of the pier about 100 feet from shore. By leaning over the rail, I saw its gourd-shaped mud nest. The nest, under a sheltering overhang, was partially supported by a joint in a ½-inch metal electrical conduit. The "neck" of the nest was barely an inch long. The next day, while photographing the nest, I saw the Cliff Swallow fly out of the structure; and it was seen looking out of the entrance for several successive days. During this period, Barn Swallows occasionally harassed the Cliff Swallow in flight.

No other Cliff Swallow nests were found, and only one pair was seen in the colony. I believe this may be the first nest built by this species at Moore's Landing.

The angle of the sun on 23 July permitted me to see into the nest. It contained four rather large, well-feathered young. They were still in the nest on 3 August, and both parents were flying in the vicinity. However, on 6 August all adults except a few Barn Swallows had departed the colony, and only one Cliff Swallow nestling remained. It was still in the nest at 0830 on that date, but at 1500 the nest was empty. I believe the whole brood fledged successfully. The fragile neck of the nest was intact. Had a predator robbed the nest, the neck would probably have been broken.

The Cliff Swallow is expanding its breeding range. It was first reported nesting in piedmont South Carolina in 1965 by Adair M. Tedards (Chat 29:95-97). Other nests were located (no date given) by the Norwoods beneath the bridge on SC 49 over the Catawba River in York County, S.C. (South Carolina Bird Life, 1970, p. 616). Sidney Gauthreaux and Carl Helms found a Cliff Swallow nest at Clemson, S.C., and another under a bridge at Lake Hartwell, in 1974 (Chat 38:97-98). These sites are in the upper piedmont. Gilbert S. Grant and Thomas L. Quay (Wilson Bull 89:286-290) summarized the appearance of this species in the piedmont of North Carolina and Virginia. In 1975, Paul W. Sykes (Wilson Bull 88:671) found a small disjunct colony in south-central Florida. The Moore's Landing nest represents the first breeding record for the southeastern coastal region.

While the status of the Cliff Swallow in the Moore's Landing colony seems clear, that of the Bank Swallow (*Riparia riparia*) is not. Although I have no field notes on this species earlier than 7 July 1977, I believe that about 6 pairs were present through May and June. They were definitely present from 7 July through 3 August. On 21 July these birds were joined by a flock of approximately 50 presumed migrants that lingered for 2 or 3 days. As no suitable banks for nesting are known in the vicinity, and as Moore's Landing is outside the known breeding range, the presence of apparently resident Bank Swallows in late spring and summer is perplexing.

Eugene E. Murphey in *Observations on the Bird Life of the Middle Savannah Valley* (Contributions from the Charleston Museum, 1937, p. 31) found Bank Swallows breeding in Aiken County, S.C., in 1895 and 1896, and collected both adults and eggs. The A.O.U. Check-list Committee (1957, p. 359) apparently accepted this record, because the southern limit of the breeding range in given as "... northern Alabama (Tennessee Valley), central West Virginia, and eastern Virginia, casually to south-central South Carolina (Aiken County). ..."

ADDENDUM

A pair of Cliff Swallows returned on 25 April 1978, were repairing the neck of the old nest with fresh mud on 5 May, and seemed to be incubating by 10 May.

On a House Sparrow Mutant from Fayetteville, N.C.

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11 August 1975

On 7 April 1975, an accidental sighting of a mutant female House Sparrow (*Passer domesticus*) was made in the Tallywood section of Fayetteville, N.C. The bird was first noticed flying in the company of an apparent mate that was normally pigmented. Later the mutant was viewed on a lawn at close range through a 7x50 binocular.

At first glance this bird appears to be generally white. However, upon closer scrutiny, the coloring is more of a beige. Sightings of similarly pigmented birds have been reported from Europe (Rutgers 1966). If this mutant has been seen in North Carolina, I have not as yet seen it reported.

The characteristic pattern of the mutant is that of a normal female House Sparrow; however, the color is very much diluted. The underparts are a very light beige. The upper parts are darker, especially the tail and the outer wing feathers, which appear to have some pink-brown tints. The beak is beige. The legs and feet are also beige, but darker. The eyes are normally pigmented.

This bird has been seen repeatedly since the first sighting. By 6 May 1975, the mutant was accompanied by two fledged juveniles that were normally pigmented. The bird was again seen on 28 May 1975 carrying nest materials. The mutant was last seen in the company of two normally pigmented fledglings on 18 June 1975. --

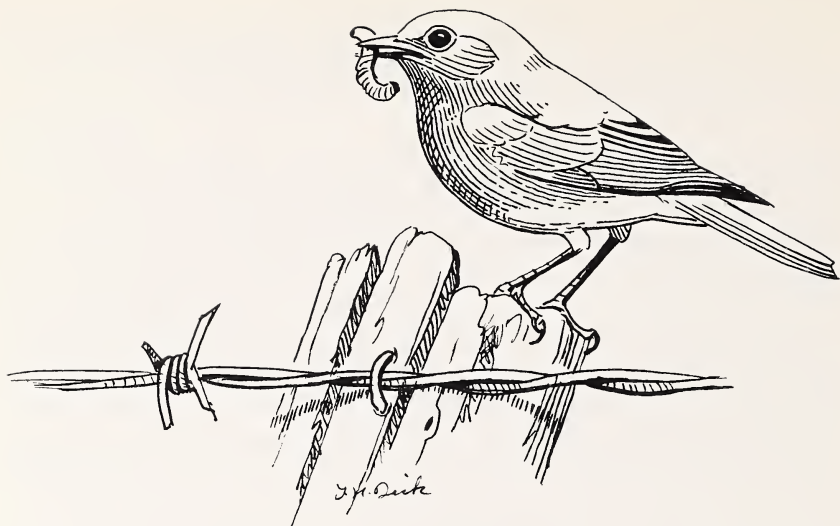
The particular interest in this bird is that it appears to resemble a similar mutation in the Zebra Finch (*Taeniopygia guttata*), which is called *Fawn*. Aiuto (1964) has explained that *Fawn* (F) is inherited as a sex-linked recessive gene. Since the female is hemizygous, such traits are always expressed. However, there is also a *White* mutant that is not an albino. This trait is inherited as an autosomal single recessive gene (Rutgers 1964).

It is expected that at least another season will be required in order to gain sufficient insights into the nature of the inheritance pattern of this mutant sparrow. Although the relative number of mutant offspring appearing in this population will have an important bearing in determining the inheritance type, the sex ratios of the mutants in this population will prove more conclusive (Sturdevant and Beadle 1939). To confirm the *Fawn* trait, controlled breeding of this mutant sparrow would very likely be required.

Another point of interest is centered on any apparent selective value that this mutant might possess. So far, it appears to be at least a neutral one. At present this mutant appears to be the only individual of this type in the population, and it has survived at least for a period of three months, the period of observation. It has also successfully produced two sets of offspring. Production of additional mutants in the local House Sparrow population may make it possible to assess any selective value that might be present.

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BRIEFS FOR THE FILES

Compiled by ROBERT P. TEULINGS
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(All dates 1977)

HORNED GREBE: An impressive inland count of 146 was recorded at South Carolina's Lake Murray, 20 November, by Bob Lewis.

GREAT CORMORANT: One was seen at Fort Fisher, N.C., on 20 November by Ricky Davis.

ANHINGA: Two were found north of their usual range on Milltail Creek in Dare County, N.C., on 6 October by Jack Donnelly and Ed Weaver.

CATTLE EGRET: A fall wanderer was sighted in Buncombe County, N.C., along Route 280 near Avery Creek on 8 October by John Funderburg and David Lee.

WOOD STORK: A good count of 65 was recorded at Hobcaw Plantation, Georgetown County, S.C., on 27 June by John Cely.

GLOSSY IBIS: An inland visitor was seen at the Tar River Reservoir near Rocky Mount, N.C., on 4 July by Louis Fink. Another inland wanderer was present at the Becker sand pits near Fayetteville 9 August through 16 August, observed by Phil Crutchfield.

WHITE IBIS: Ten immatures were seen on 5 August at Lake James in Burke County, N.C., reported by Patricia Craig. One was seen earlier at Price Lake on the Blue Ridge Parkway in Watauga County, N.C., on 15 July by Tom Haggerty and Libbus Carter. Both are unusual records from the western section of the state.

WHITE-FRONTED GOOSE: Three were seen in South Carolina at Santee N.W.R. on 5 November by Brian Cassie and Chuck Whitney.

FULVOUS WHISTLING-DUCK: As many as 80 were seen in early November at Huntington Beach, S.C., fide F.M. Probst. On 5 November Phil Crutchfield observed a flock of 50 at Pamlico Point in Beaufort County, N.C.

OLDSQUAW: An unusually good count of 11 was recorded at Beaverdam Reservoir north of Raleigh, N.C., on 27 November by Bill Lezar. Five were also seen on 12

November on Lake Gaston, Warren County, N.C., and three on Roanoke Rapids Lake, Halifax County, N.C., on 12 November by Merrill Lynch.

WHITE-WINGED SCOTER: Merrill Lynch closely observed a lone female at Roanoke Rapids Lake in Halifax County, N.C., on 13 November, a rare inland record.

SURF SCOTER: Five were unusual inland visitors at Beaverdam Reservoir near Raleigh, N.C., on 22 October, observed by Clark Olson and Kenneth Knapp.

BLACK SCOTER: An inland migrant, a female, was found at Raleigh's Beaverdam Reservoir on 29 October by Robert Hader.

SWALLOW-TAILED KITE: One was an unexpected visitor at Rocky Mount, N.C., sighted on 8 June by Louis Fink.

BROAD-WINGED HAWK: A migratory flight of 250 was seen passing over Pilot Mountain, Surry County, N.C. on 30 September, fide Ramona Snaveley.

ROUGH-LEGGED HAWK: One was sighted near Black Mountain, Buncombe County, N.C., on 3 December by Mike Tove and party.

GOLDEN EAGLE: One was seen at Nags Head, N.C., on 10 September by Robert Fleischer. Elsewhere along the coast, another was seen at Moores Landing, S.C., on 1 October by Jay Shuler, and one at Oak Island, N.C., on 1 November by Michael Schultz and Nancy Clark.

BALD EAGLE: On the coast two adults were seen at Manteo, N.C., on 14 August by Mike Tove. An individual (age not specified) was seen at Davis impoundment near Morehead City, N.C., on 27 September by Eugene Pond, and an immature at Huntington Beach, S.C., on 22 October by Pat Probst. At least five migrants (two adults and three immatures) were seen inland in the Raleigh, N.C., area during the fall period, fide Robert Hader; and there were reports of immatures seen near Vulture, N.C., on 16 October by Merrill Lynch and at Greenwood, S.C., on 14 November by Bob Lewis.

MARSH HAWK: Early sightings of individuals were noted at Bodie Island, N.C., on 12 August by Mike Tove and at Raleigh, N.C., on 14 August by Jim Mulholland.

PIPING PLOVER: One was an unusual inland visitor at Lake Surf near Vass, Moore County, N.C., on 9 September, observed by Jay Carter.

AMERICAN GOLDEN PLOVER: Two were present at Clemson, S.C., 10 to 16 September, observed by Sidney Gauthreaux and Harry LeGrand.

BLACK-BELLIED PLOVER: A late fall migrant was seen on 5 November at Lake Wheeler near Raleigh, N.C., by Robert Hader.

RUDDY TURNSTONE: Observers reported three rare inland appearances in early fall. A migrant was seen at Lake Hartwell near Clemson, S.C., on 6 August by Harry LeGrand. Another was seen at Beaverdam Reservoir near Raleigh, N.C., on 8 August by Mike Tove and party, and a third individual was recorded near Fayetteville, N.C., at Becker sand pits on 9 August by Phil Crutchfield.

RED KNOT: One was found at Lake Hartwell near Clemson, S.C., on 10 September by Sidney Gauthreaux, the first record for that western piedmont reservoir. Another rare inland sighting for the species was recorded at Lake Surf near Vass, N.C., on 9 September by Jay Carter.

BAIRD'S SANDPIPER: Two were a good find at Townville, S.C., on 25 August by Harry LeGrand.

CURLEW SANDPIPER: Three were seen feeding together alongside Highway 12 at Pea Island on North Carolina's Outer Banks on 19 October by Floy Burford and Gisela Grimm.

LAUGHING GULL: Two were seen inland at Lake Wheeler near Raleigh, N.C., on 25 November by Robert Hader.

FORSTER'S TERN: A surprising inland count of 31 was recorded at Raleigh's Lake Wheeler on 26 November by Jim Mulholland.

SOOTY TERN: Fourteen were seen during a pelagic cruise off Cape Hatteras, N.C., on 3

September by Paul DuMont and party.

BRIDLED TERN: Record counts of 59 were recorded on 3 September and 64 on 4 September in the Gulf Stream off Cape Hatteras, N.C., by Paul DuMont and party.

CASPIAN TERN: Over 100 were seen at Oregon Inlet on the North Carolina Outer Banks on 5 October by David Lee. Inland, two were recorded at Lexington Reservoir in Davidson County, N.C., on 18 August by Pat Culbertson and Ramona Snavelly, and four at High Point Reservoir in Guilford County, N.C., on 15 September by Pat Culbertson. Later two were seen at Lake Gaston in Halifax County, N.C., on 7 November by Merrill Lynch.

DOVEKIE: One was seen in waters off Oregon Inlet, N.C., on 7 November by David Lee, an early record.

YELLOW-BILLED CUCKOO: A late lingerer was seen at Bull Island, S.C., on 11 November by F.M. Probst.

WHITE-WINGED DOVE: One was shot by a hunter near Parkton, Robeson County, N.C., on 24 September, fide John Fussell.

COMMON NIGHTHAWK: A flight of an estimated 500 was seen over Hawk Rock on the Blue Ridge Parkway near Boone, N.C., on 5 September by Tom Haggerty.

EASTERN KINGBIRD: Over 4000 were seen migrating south at Fort Fisher, N.C., during a 2-hour period on 8 September by Ricky Davis.

COMMON RAVEN: Ten were seen in a single flock at Black Balsam Knob on the Blue Ridge Parkway in Haywood County, N.C., on 19 November by Mike Tove et al.

BEWICK'S WREN: One was closely seen near Townville, S.C., on 26 November by Bob Lewis.

LONG-BILLED MARSH WREN: Two were late and unusual at Lake Benson near Raleigh, N.C., on 3 December, observed by Robert Hader.

PHILADELPHIA VIREO: Four were seen at Stevens Creek Natural Area near Clark Hill, S.C., on 2 October by Gerald Knighton.

NASHVILLE WARBLER: A late transient was seen at Chapel Hill, N.C., on 23 October by James Pullman.

YELLOW-HEADED BLACKBIRD: A male was present at Cornelia Chapin's feeder on Hilton Head Island, S.C., on 24 October. Another was seen at North Litchfield Beach, S.C., on 19 September by F.M. Probst.

COMMON REDPOLL: Eighteen were seen in a mixed flock with Pine Siskins on Currituck Banks near Duck, N.C., on 19 October by Floy Burford.

LARK SPARROW: One was seen at Pea Island, N.C., on 8 October by James Pullman and Elizabeth Teulings, and another near Morehead City, N.C., on 28 November by Bill Moffitt.

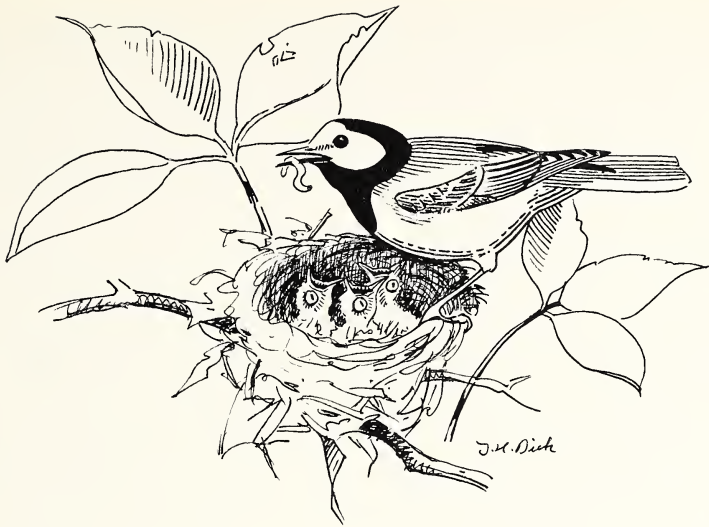
CLAY-COLORED SPARROW: Two were seen at Clemson, S.C., on 28 September by Harry LeGrand, a rare inland record. On the coast, single birds were seen by Ricky Davis at Fort Fisher, N.C., on 29 September and at Pea Island, N.C., on 1 October. Three were also seen at Cape Lookout, N.C., on 20 October by Skip Prange and Keith Vokes.

HARRIS' SPARROW: One was present on 14 November and for several days thereafter at Huntington Beach, S.C., first observed by Bobby DesPorte and John Bacon.

LINCOLN'S SPARROW: Four were seen in Watauga County, N.C., in a thicket near Hounds Ear on 30 October by Tom Haggerty. Another was seen at Columbia, S.C., on 12 November by Brian Cassie.

LAPLAND LONGSPUR: Seven were seen in the Pendleton, S.C., area on 27 November by Harry LeGrand.

SNOW BUNTING: Small numbers were noted in the coastal area during the fall period with two seen at Cedar Island, N.C., on 10 November by Eugene Pond and three at Huntington Beach, S.C., on 18 November by F.M. Probst.



BOOK REVIEWS

THE AUDUBON SOCIETY FIELD GUIDE TO NORTH AMERICAN BIRDS,
Eastern Region

John Bull and John Farrand Jr. 1977. Knoph. 776 p. \$8.95.

The greatest strength of this book is its collection of 584 color photographs, the first ever to illustrate a bird field guide.

More than 100 of America's best wildlife photographers contributed pictures which provide fine detail and a reality unmatched in any of the artist-illustrated guides already on the market. With a few exceptions the photographs are pleasing and show the field marks needed for identification.

Among the few photographs that fail to contribute to the overall excellence of the collection, the Eastern Kingbird is poorly posed and out of focus. It does not show the white tip of the tail, the key field mark. The Pine Grosbeak on her nest is a shadowy mass against a black background. The photograph labeled "Ruffed Grouse" is wrongly identified. Identifying birds in some pictures can be even more tricky than identifying some birds in the wild, but this one looks like a female Spruce Grouse.

Two young artists, Paul Singer and Douglas Pratt, produced the black-and-white drawings of birds whose flight patterns were needed. Drawings of a few others, like Bachman's Warbler, whose rarity or restricted range make them unlikely to be encountered by most bird watchers were also included. As though to insure that the photographs get the attention, the drawings were reduced to postage stamp size and stuck in the margins of the text. Nevertheless, the sensitively rendered birds bring credit to the artists.

The text follows traditional lines. Technical data for each bird are treated under five headings: description, voice, habitat, range, and nesting. A brief essay then may touch upon aspects of each bird's way of life, recent history, and evolutionary background. This material is fresh, stimulating and up-to-date. . . .

With enough going for the book to guarantee its success—an innovative use of color photographs, good art work, and an interesting text—it seems a pity that the organization is so inept. In most bird books the birds considered the most ancestral, or primitive, are treated first and the sequence proceeds to those thought to be the most advanced, or

modern. Closely related birds appear together, allowing users of such books to become familiar with the similarities and differences that mark the natural groups. The precise order in our country is set by a committee of the American Ornithologists' Union. But the architects of this book have drastically shuffled the AOU list.

They order the pictures by "shape," a concept which takes into account bird posture, behavior, habitat—and color. The idea is to make it easier for users to riffle through the book and come up with the bird they want to identify. That sounds like a good idea, but unfortunately the execution of the concept forces so many subjective decisions that reasonable people might place some birds in . . . two or more categories. Confusion follows, both in the book and in the field.

Should pelicans really go among the "Duck-like Birds"? How can one guess that the cormorant he sees swimming, very duck-like, is in the book under "Upright-perching Water Birds"? How does one select a multi-colored bird's "most prominent" color, as is required of a user of this book? Is the Painted Bunting's most prominent color red? No, green, the book says. The Yellow-headed Blackbird, yellow? No, black. The Great Crested Flycatcher, brown? It's green, despite the description in the text which fails to mention that color!

The confusion does not subside as one leaves the pictures and turns to the text. Here birds are scrambled by habitat. Decisions every bit as subjective as before must be faced. To give just one example: the Horned Grebe is treated under "Salt Marsh"; the Red-necked Grebe under "Lakes, Ponds, Rivers." But in winter, when bird watchers are most likely to encounter these very similar birds, both frequent the habitat categorized as "Salt Marsh."

The success of the book as a whole should not be allowed to mask its failures. The simple errors probably will be corrected in due course, but in some future edition the shortcomings of the organization must be remedied. Then the book could come close to qualifying as the ultimate field guide.—JAY SHULER (Reprinted from *The News and Courier/Charleston Evening Post*, 26 February 1978)

[EDITOR'S NOTE: A quick survey of *Audubon Guide* owners indicates that nearly all regard it as a marvelous picture book and a useful supplement to the Peterson and Robins guides. Everyone expressed a preference for one or the other of the artist-illustrated guides if he could have only one of the three books for use in the field.]

A FIELD GUIDE TO THE NESTS, EGGS AND NESTLINGS OF BRITISH AND EUROPEAN BIRDS

Colin Harrison. 1975. Quadrangle/The New York Times Book Co., 10 East 53rd Street, New York, N.Y. 10022. 432 p. Illus. Index. \$12.50.

One of my most treasured possessions is a copy of *British Birds' Eggs and Nests, Popularly Described*, which was written by the Rev. J.C. Atkinson and published in London more than 100 years ago. It contains 182 pages and 12 colored plates illustrating 122 eggs. Harrison's guide has 64 colored plates illustrating 730 eggs and 145 nestlings. Comparing the two books gives us some idea of the progress that has been made during the past century in the writing, illustrating, and printing of bird guides. Yet both authors, in their own time, succeed in presenting, to borrow the words of the Rev. Mr. Atkinson, "at one glance, and in a very condensed and systematic form, as much information as possible touching the nest, its customary site and materials, and also the eggs, their number, colour, and markings, and any noteworthy peculiarities of each. . . species." Atkinson wrote to encourage "the youthful nest-hunter and egg collector"; Harrison, on the other hand, devotes two pages to warnings about the harm that can be caused by visiting nests and about the laws regarding the taking of nests and eggs. Times have changed, but the study of birds and their nests and eggs still fascinates us.

A Field Guide to Birds' Nests in the United States East of the Mississippi (H.H. Harrison, Houghton Mifflin, Boston, 1975) offers color photographs of nests and eggs. People

who own the Houghton Mifflin book may find the Quadrangle guide a useful supplement because of the fine nestling illustrations painted by Philip Bruton. Color photographs of the eggs are excellent, too. Viewing the great variety of sizes, shapes, ground colors, and markings, I wonder how many egg specimens in the British Museum were collected by people who read Atkinson's book.

At any rate, British and European bird students are indeed fortunate to have Colin Harrison's book to help them identify nests, eggs, and nestlings. I hope someone is working on a similar volume for North America.—EFP

WATCHING BIRDS: An Introduction to Ornithology

Roger F. Pasquier. 1977. Houghton Mifflin Company, 2 Park Street, Boston, Mass. 02107. xiii + 301 p. Illus. by Margaret La Farge. Index. \$10.00.

Pasquier's book provides a coherent and readable introduction to the study of birds, including their structure, behavior, and reproductive cycle. The author uses technical terms when necessary, but he does not burden the reader with scientific jargon. Ms. La Farge's drawings are useful and easy to interpret. Advanced bird students may prefer Welty's *The Life of Birds*, Pettingill's *Ornithology in Laboratory and Field*, or various other books used in college ornithology classes; but beginning and moderately advanced bird students will feel comfortable with Pasquier's presentation. *Watching Birds* is suitable for the high school or public library because it can be understood by the general reader. Pasquier is to be commended for having written an introduction to ornithology that is neither overly technical nor overly simplified, which is a far more difficult task than the average bird watcher might think. Specialists may take exception to the author's handling of one point or another, but the book as a whole offers a sound foundation for the intelligent and pleasurable pursuit of bird study.—EFP

THE AMERICAN ROBIN: A BACKYARD INSTITUTION

Len Eiserer. 1976. Nelson-Hall Inc., 325 A. Jackson Boulevard, Chicago, Illinois 60606. xii + 175 p. Illus. Index. \$12.50.

The thumbnail sketch on the dust jacket describes the author of *The American Robin* as an assistant professor of psychology and a "Robin aficionado." Basically I like the idea of having a layman write a book about a bird that particularly interests him; but after reading Eiserer's book, I have decided that bird books should be written by ornithologists rather than aficionados.

Some of the book's shortcomings are the use of attractive color pictures that seem pointless when printed without captions; use of published material, including one direct quotation, without giving proper credit to authors; and use of incorrect or obsolete nomenclature, including reference to the San Lucas Robin as still being considered a distinct species. In a misguided attempt to spice up the facts, the author often gives the impression that certain things robins do are unusual, baffling, or mysterious, when in reality their behavior is normal for passerines or at least widespread among birds of various species. Eiserer misused several common words such as *latter*, *apt*, and *enormity*; and he started far too many sentences with conjunctions. His worst offense in my opinion, however, was the consistent use of *who* in reference to birds and other animals that are not human. This incorrect and completely unnecessary personification symbolizes the shallowness of the entire book. Obviously the publisher did not have this manuscript read by an ornithologist or even by a moderately literate assistant editor.—EFP

FIFTY COMMON BIRDS OF OKLAHOMA AND THE SOUTHERN GREAT PLAINS

George Miksch Sutton. 1977. University of Oklahoma Press, Norman, Okla. 113 p. Illus. \$7.95.

This slim but beautifully produced book is a delight for the mind and the eye. Writing in the first person, the author departs from the standard life history material to share his

personal impressions of 50 different birds. Facing each species account is a color portrait of the bird painted by the author, who is one of our country's leading bird artists.

Dr. Sutton notes that he never has seen a sky as blue as a robin's egg, but he is still looking for it. He tells about banding Chimney Swifts. He shares the excitement of finding a female Scissor-tailed Flycatcher sitting on her second clutch of eggs while surrounded by the well-developed young from her first brood of the season. He tells us how Baltimore Orioles feed on bagworms. He makes us recall those rare moments when we, too, saw a bird doing something that surprised us.

If you like Dr. Sutton's style of painting and enjoy hearing naturalists tell about their experiences in the field, you will want to read this book even if you never have been west of the Mississippi River. In fact, 49 of the 50 species illustrated occur in the Carolinas, the Roadrunner being the lone exception.—EFP

CBC ROUNDTABLE (Continued from Page 29)

population fit the range. One authority points out that when an animal population declines for any reason, natural forces immediately raise the reproduction rate. This is not an easy book to read (it abounds in words like "parodic" and "paradigmial"), but it is worthwhile.

The Birds of Pleasant Garden

Mrs. H.M. Draper Jr., of the Piedmont Bird Club, reports that the birds are doing well in Pleasant Garden. In early March, the Eastern Bluebirds were inspecting nesting boxes, having survived the winter. Red-breasted Nuthatches joined Purple Finches and Evening Grosbeaks at the feeders. Five Red-tailed Hawks were over the highway. And at dusk, the Drapers watched the courting antics of an American Woodcock, right in the middle of their chicken yard.

North Carolina Bird List Available

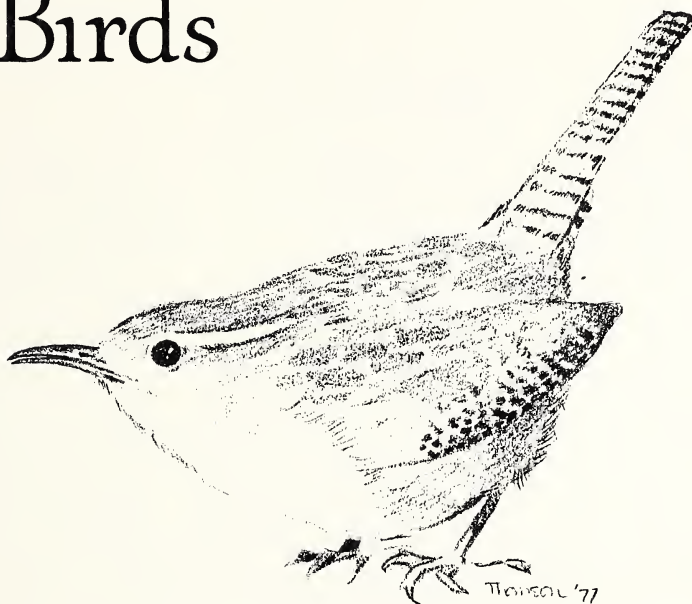
A *Checklist of North Carolina Birds*, prepared by the CBC Records Committee and the staff of the North Carolina State Museum of Natural History, is now available at the registration desk during CBC meetings and by mail from CBC Headquarters and the Museum. Single copies are 75¢ over-the-counter and \$1.00 by mail. Special rates are offered for bulk sales.

The 40-page booklet is dedicated in memory of Edna Lanier Appleberry, a past president of Carolina Bird Club. Mrs. Appleberry died last January in Wilmington.

So far only three typographical errors have been noted in the new checklist. On page 4 the number of species nesting in North Carolina is given as approximately 290, but the correct number is about 190. Following the Mandarin Duck on page 12, the dot should be deleted from the column headed "Birds, NC '42." The footnote listing the two hybrid warblers (Lawrence's and Brewster's) was inadvertently omitted from page 29.

In a state with lots of active bird watchers, any published list becomes out-dated quickly. Several first specimens for the state have been collected since the type was set, and the current issue of *Chat* adds the American Avocet to our list of breeding birds. Members of the Records Committee hope that the next edition of the North Carolina bird list will be similar to the excellent one published by Georgia Ornithological Society.

CHECKLIST of North Carolina Birds



CAROLINA BIRD CLUB, INC.
AND
NORTH CAROLINA STATE MUSEUM
OF NATURAL HISTORY



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Carolina Bird Club, Inc., is a non-profit educational and scientific association founded in March 1937 and open to anyone interested in the study and conservation of wildlife, particularly birds. Dues, contributions, and bequests to the club are deductible from State and Federal income and estate taxes. Checks should be made payable to Carolina Bird Club, Inc., and sent to CBC Headquarters, P.O. Box 1220, Tryon, N.C. 28782.

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All CBC members not in arrears for dues receive *The Chat*, a quarterly journal devoted to bird study and conservation, and the *CBC Newsletter*, which carries information about meetings, field trips, and club projects. Articles intended for publication in *Chat* may be sent to the Editor or to the appropriate department editor listed in a recent issue of the bulletin. Items for the *Newsletter* should be sent to its Editor, Clyde Smith, 920 Cooper Road, Raleigh, N.C. 27610. Correspondence regarding memberships, changes of address, or requests for back numbers of either publication should be sent to CBC Headquarters, P.O. Box 1220, Tryon, N.C. 28782.

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OUR COVER—Bluebird nest boxes are becoming more numerous in the Carolinas thanks to the efforts of two men from Bailey, N.C. CBC Roundtable tells more about the work of Jack Finch and Ronald Bissette. The bluebird box on our cover was photographed by Jack Dermid (photo courtesy of N.C. Wildlife Resources Commission).

A MASSIVE FLIGHT OF CORY'S SHEARWATERS AT CAPE HATTERAS

RICHARD A. ROWLETT

Will McDowell and I observed a massive migration of Cory's Shearwaters (*Puffinus diomedea*) from the beach at Cape Point, Cape Hatteras, Dare County, N.C., on 28 October 1974. A total of more than 8850 Cory's were counted during 4 hours of continuous observation in the morning and 3 hours late in the afternoon. In addition, Greater Shearwaters (*P. gravis*), Sooty Shearwaters (*P. griseus*), Northern Gannets (*Morus bassanus*), Pomarine Jaegers (*Stercorarius pomarinus*), Parasitic Jaegers (*S. parasiticus*), Black-legged Kittiwakes (*Rissa tridactyla*), and Roseate Terns (*Sterna dougallii*) were seen. Table 1 summarizes our observations.

The migration proceeded from west to east, passing just south of Cape Point, and continuing due east over and along the turbulent waters of Diamond Shoals. About 80% of the birds passed our observation station, located about 300 meters W of the Point, between 30 and 250 meters off the beach. Occasional Cory's Shearwaters could be seen at 1 km or more, and some east-to-west movement was noted among these most distant birds. Only a few shapes of shearwaters were recognized on the horizon along the north edge of Diamond Shoals, north of the Point. A 30-minute watch at noon from Cape Hatteras Lighthouse, about 5 km N of Cape Point, yielded only one immature Northern Gannet. The intensity of the flight between 0630 and 1030 averaged about 40 Cory's per minute with extremes of 65 and 15 per minute. The flight diminished to about 4.5 Cory's per minute between 1530 and 1830. Figure 1 illustrates the character of the flight.

Throughout the day, thousands of gulls and terns were observed feeding off Cape Point, over schools of blue fish (*Pomatomus saltatrix*), and most of the shearwaters, gannets, and kittiwakes flew through or around them without stopping. The only Sooty Shearwater was watched for about 30 minutes, diving and feeding with the flock of gulls, 200 meters S of the Point. The jaegers usually paused long enough to engage a tern or gull in brief, halfhearted pursuit, before continuing eastward. More than 100 fishermen jammed the Point in the evening and were consistently catching 7- to 18-pound blue fish within

Table 1. Seabirds observed flying from west to east, passing Cape Point, Cape Hatteras, North Carolina, 28 October 1974.

SPECIES	TIME	0630-1030	1530-1830	TOTAL
Cory's Shearwater -----		8400+	450+	8850+
average no. Cory's/min. ---		40±	4.5	--
Greater Shearwater -----		6	0	6
Sooty Shearwater -----		0	1	1
Northern Gannet (adult) -----		1	0	1
" (sub-adult) ---		5	2	7
" (juvenile) ---		120±	72	192±
Pomarine Jaeger -----		0	4	4
Parasitic Jaeger -----		3	3	6
Black-legged Kittiwake -----		22	6	28
(1st winter immature) -----				
Roseate Tern -----		2	0	2

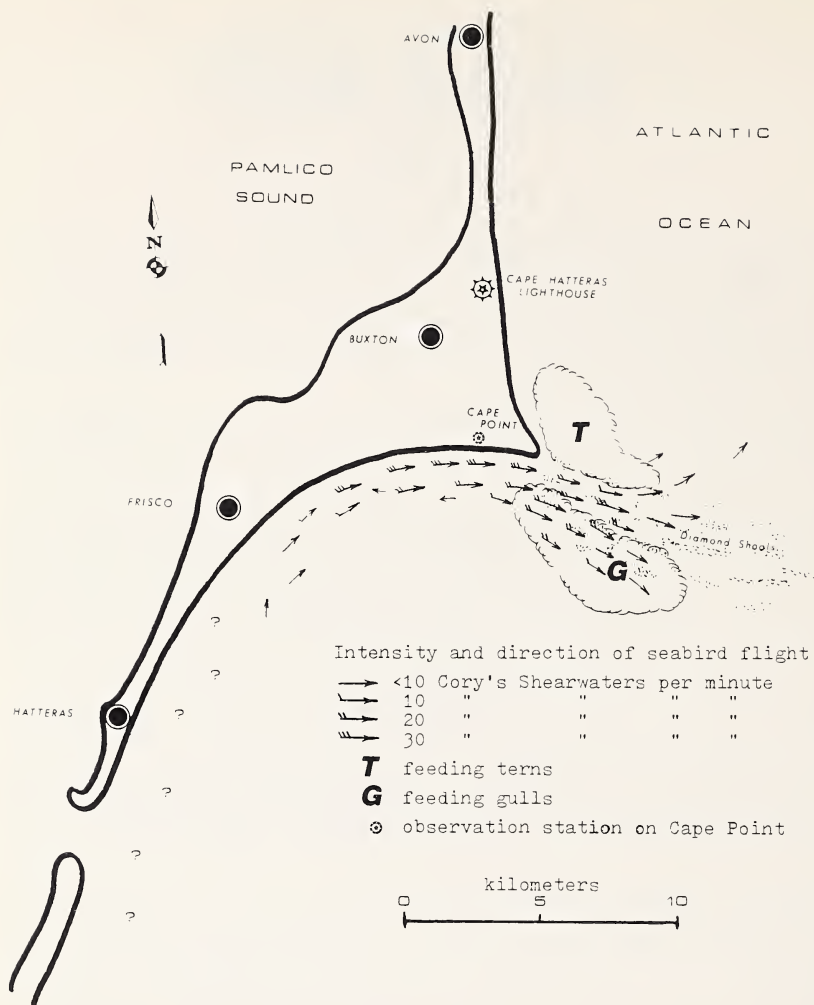


Fig. 1. Character of seabird activity at Cape Hatteras, N.C., on 28 October 1974.

seconds of casting, and the jaegers and kittiwakes were cutting across the Point directly overhead, occasionally swooping at some unattended bait lying on the beach.

We had birded at Ocracoke on the preceding day, and we did not observe any shearwaters from the beach. One immature Black-legged Kittiwake was seen flying north past the mouth of Silver Lake Harbor in the morning, and one Parasitic Jaeger was pursuing terns over Hatteras Inlet in the evening. A fisherman, who seemed to have a keen side interest in seabirds, told us that he had been fishing off the Point all week and that the shearwater flight was first apparent to him when he arrived at dawn on the 28th.

Weather conditions on 27 and 28 October were clear, wind E to SE at 5 to 10 knots, and the air temperature ranged from 64° to 76°F.

715 Main Street, #5, Laurel, Maryland 20810.

CHRISTMAS BIRD COUNT—1977

HARRY E. LeGRAND JR.

Birders on the 1977 Christmas Count turned up a remarkable number of unusual species, considering the cold weather in December preceding the Count. A total of 220 species were accepted (and eight rejected) on the Count, the most since 1974, and seven below the record 227 species in 1972. Thirty-four counts were received, only one less than the record 35 set last year.

Of the 33 count areas reporting in both 1976 and 1977, 15 showed an increase in species over 1976, 16 showed a decrease, and two remained even. These results are somewhat misleading, however. Many, if not most, of the increases were due to better count organization and participation and not to an actual increase in species in 1977 over 1976. In other words, most increases were registered by either the undermanned counts (such as Caldwell County) or the newer counts (such as McClellanville and Greenwood). The decreases were more a response of the birds than the observers, and most of the strong and well-established counts showed a drop in species. Counts in this group included Bodie-Pea Island (down 13), Morehead City (down 14), Raleigh (down 12), and Winston-Salem (down 9). Another point of interest is that the cold weather had a great effect on most of the North Carolina counts, with the majority of the stronger ones showing a species drop; yet most of the established South Carolina counts were not affected one way or the other by the cold weather, and count total increases and decreases were primarily due to observer participation.

The weather on the various count days was by no means beautiful. Of the 34 counts, 23 had cloudy or overcast skies and, of these, 19 had rain or drizzle. Fortunately, most of the rain was light, and few counts were adversely affected by the clouds and rain. Most of the counts with clouds and/or rain were at the beginning or at the end of the count period. Generally speaking, those counts taken during the middle of the period (within several days of Christmas day) had sunny weather. Temperatures during the period were about normal, and because of the cloudy weather on most counts, only seven of the 34 counts had temperatures below 25°F. Grandfather Mountain's 8° on 28 December was the lowest recorded on the counts.

One of the highlights of the 1977 Count was McClellanville's 170 species, easily surpassing the previous record of 165 set by Wilmington in 1975. This is all the more surprising since the count was just the third taken at this location, and one would have expected a long established count, particularly Charleston or Wilmington, to have broken the old record. Other species totals of note were Charleston at 160, Wilmington at 158, Roanoke Rapids at 104, Columbia and Raleigh at 97 (the latter down from 109 the previous year), and Greenwood at 94. The Greenwood count had only three observers, showing the potential for most inland localities with sizable lakes to reach at least 90 species.

As mentioned earlier, an excellent number of rare species were recorded on the Count, and the *White Pelican* at McClellanville was the first Christmas Bird Count record for the Carolinas, bringing the cumulative total to 286 species. Like 1976, there was a good mixture of northern visitors and summer and migrant stragglers, with a few "western" species also reported. A good flight of winter finches (with the exception of the Red Crossbill) and Red-breasted Nuthatches also highlighted the Count. Among the northern species were *Common* and *King Eiders*, *Harlequin Duck*, *Lesser Black-backed Gull*, *alcid* sp., *Common Redpoll*, *White-winged Crossbill*, and an inland *Snow Bunting*. The best of the stragglers were *Least Bittern*, *Gull-billed* and *Sandwich Terns*, *Eastern Wood Pewee*, *Barn Swallow*, *Swainson's Thrush*, *American Redstart*, and *Summer Tanager*. "Westerners" (species wintering mainly west of the Carolinas) included the *White Pelican*, *Long-billed Curlew*, *Bewick's Wren*, *Yellow-headed* and *Brewer's Blackbirds*, *Western Tanager*, and *Lark* and *Lincoln's Sparrows*. There were also five inland reports of *Merlins* and three inland sightings of *White-eyed Vireos*.

The 1977 Count showed an increase in most waterfowl and most birds of prey over previous counts. The waterfowl trend seemed to be real (more waterfowl in the Carolinas

in very cold winters than in mild winters), but the trend in birds of prey may simply reflect better observer coverage. The *Sharp-shinned Hawk* has clearly increased in the past few years, as it was reported on 30 of the 34 counts, but real increase in most of the other raptors is not at all certain. Other species that appeared to have wintered in larger than normal numbers were the *Willet*, *Western Sandpiper*, *Red-headed Woodpecker*, *Blue Jay*, and *Eastern Bluebird*. Without question, *Red-breasted Nuthatches*, *Evening Grosbeaks*, *Purple Finches*, *Pine Siskins*, and *American Goldfinches* wintered in larger numbers in 1977 than in 1976.

The cold weather in December, and the very cold weather early in 1977, were factors in the conspicuous scarcity of well over a dozen species on the Count. These species fell basically into two categories—small insectivores and marsh dwellers. The *Winter Wren* and *Golden-crowned Kinglet* showed precipitous declines, and *Ruby-crowned Kinglets* fared little better. Other insectivores in poor numbers were most warblers (especially *Orange-crowned Warbler*, *Palm Warbler*, and *Common Yellowthroat*), *Eastern Phoebe*s, and *Hermit Thrushes*. Marsh birds in low numbers were most of the rails, *American Bittern* (seen only at Bodie-Pea Island), *Little Blue Heron*, and *Louisiana Heron*. *Vesper Sparrows* continued their long-term decline as a wintering species, and *Least Sandpipers* and *Bonaparte's Gulls* also were poorly represented on the Count.

There were a number of impressive single-species totals on the various counts, with most of these coming from coastal localities. In taxonomic order, outstanding totals were 895 *Common Loons* and 970 *Red-throated Loons* at Litchfield-Pawleys Island, 237 *Brown Pelicans* and 2790 *Gannets* at Morehead City, 622 *Wood Ducks* at McClellanville, 407 *Turkey Vultures* and 129 *Black Vultures* at Chapel Hill, 300 *Common Snipes* and 902 *Black Skimmers* at Wilmington, 30 *Great Horned Owls* and 24 *Barred Owls* at Roanoke Rapids, and 8324 *Fish Crows* at Wilmington.

As always, a number of species had to be rejected from the Count because of the absence or inadequacy of details. Most of these species were tallied on just a few counts, meaning that all but a few compilers did a fine job of reporting details. On previous counts I have protected "guilty" compilers by listing the rejected species in the introductory paragraphs without mention of the counts on which they were reported. This year I am adopting the *American Birds* method of questioning rarities by naming the counts on which the dubious birds were reported. By doing this I hope to help improve the future reporting of details by the "guilty" observers and compilers. Also, some of the birds that I question may well be correct sightings, and thus I feel it important to list the locality where each of these species is reported, for the record. The species that were deleted, and the reasons for their deletion, are listed at the end of the Compilers' Comments section for the counts on which they were reported.

Once again, thanks to all who participated on the Count, particularly the compilers. I hope that the 1978 Christmas Bird Count will produce another count or two with at least 170 species.

COMPILERS' COMMENTS

COAST

BODIE-PEA ISLAND: Center unchanged. 30 December. 0530-1800. 140 species; 51,759 individuals; 20 observers in 8 parties; 102 field-hours; 65 field-miles by foot; 133 field-miles by car.—Larry Hartis and the Compiler observed the three adult and one sub-adult *White Ibises* at Pea Island. The two female *Harlequin Ducks* (David Hughes party) were seen in flight at Oregon Inlet; all dark wings and upper body, dark grayish bellies, and three distinctive white patches on the head were the field marks noted. An immature male *King Eider* (Harry LeGrand, Merrill Lynch, Eloise Potter) was seen in the surf at Pea Island the day following the count. The yellow-orange and moderately broad frontal shield that formed a small knob along the midline, as well as the white breast sharply separated from the dark brown head and neck, were clearly observed. The 136 *Willet*s were a very high count for the area, as were the 18 *Red Knots* (three parties). Hughes and party also found the six *Marbled Godwits* at Oregon Inlet. All field marks of the adult *Lesser*

Black-backed Gull were noted (including slaty black and yellow legs) by Hartis and the Compiler; the bird was sitting on the beach at Pea Island with several species of gulls. The *alcid* was one of the larger species and was probably a Razorbill, seen briefly in flight over the ocean at Pea Island by Robert Hader, who was unable to observe the bill. Lynch and LeGrand saw the *Western Tanager* on two occasions in yards in Wanchese. All field marks, including the two large yellow wing bars, were clearly seen, even through a spotting scope. [Excellent details.—HL]—PAUL W. SYKES JR., P.O. Box 2077, Delray Beach, Florida 33444.

MOREHEAD CITY, N.C.: Center unchanged. 18 December. 0600-1800. 139 species; 27,557 individuals; 19 observers in 10 parties; 78 field-hours; 26 field-miles by foot; 255 field-miles by car.—The 237 *Brown Pelicans*, 811 *Black Scoters*, and 2790 *Gannets* were excellent counts; most of the last species were seen moving westward off Fort Macon and Atlantic Beach in the morning. The immature male *Common Eider* was seen at Fort Macon by Kevin Hints, Bob Holmes, Bill Moffitt, and Mike Tove; the sheath of the bill extended well up the forehead and some white color was seen on the back. The *Black Rail* seen at North River by Darryl Moffett was not unexpected, as the species is a permanent resident there. The usual *Long-billed Curlew* at Bird Shoal was noted by Hints and Tove. Holmes saw a well-marked adult *Pomarine Jaeger* at Fort Macon, and later in the day he saw an immature jaeger, probably a *Parasitic* (definitely not a Pomarine), chasing a Ring-billed Gull that was larger than itself. Holmes also saw a *Sandwich Tern* at Fort Macon. The yellow tip of the bill was not seen, but the nearly complete black cap with white forehead, intermediate size between Forster's and Royal Terns, and generally whitish mantle were noted; the species regularly lingers in the area until 1 December. Charles Lincoln had the female *American Redstart* in his yard since early October, and he noted the yellow in the wings and tail, white eye ring, and active feeding habits. The adult *Lark Sparrow* was seen by Moffitt in his yard just west of Morehead City, and the Compiler photographed the bird the following day. [Excellent details.—HL]—JOHN FUSSELL III, P.O. Box 520, Morehead City, N.C. 28557.

WILMINGTON, N.C.: Center unchanged. 17 December. 0530-1700. 158 species; 28,151 individuals; 25 observers in 13 parties; 109.5 field-hours; 58.5 field-miles by foot; 385 field-miles by car.—The *Cattle Egret*, *Glossy Ibis*, and *Common Merganser* were seen at Orton Plantation by Greg Massey and Harry Latimer. They also noted the *Rough-legged Hawk* near the Cape Fear River bridge, where one has been seen for several winters. The *Common Tern* (Ricky Davis) was at the north end of Carolina Beach, and Frank Chapman observed the *Short-eared Owl* on a dredge island in daylight. [Least Tern with unsatisfactory details was removed from the list.—HL]—FRANCES NEEDHAM, Box 8207, Wrightsville Beach, N.C. 28480.

LITCHFIELD-PAWLEYS ISLAND, S.C.: Center unchanged. 29 December. 0600-1800. 148 species; 17,639 individuals; 34 observers in 8 parties; 74 field-hours; 40 field-miles by foot; 170 field-miles by car.—The *Purple Sandpiper* (Compiler) was seen on the rock jetties at Pawleys Island. The Compiler, Karl Anderson, and Liz Anderson observed the *Gull-billed Tern* along the beach at Pawleys Island; large bill and whiter plumage than other terns were identifying marks. The *Short-eared Owl* was carefully studied in dunes by John Bacon, Pete Laurie, and Cindy Floyd. The 29 *Red-headed Woodpeckers* were quite noteworthy, especially since none were reported last year. Bacon, Laurie, and Floyd observed the two *Eastern Wood Pewees* in an area of oaks and pines. They noted the light lower mandible, wing bars, and absence of tail wagging. Six birds watched the *Barn Swallow* feeding over a freshwater pond, and the reddish breast and forked tail were obvious. [Good details.—HL]—FREDERICK M. PROBST, Route 2, Box 80-C2, Pawleys Island, S.C. 29585.

McCLELLANVILLE, S.C.: Center unchanged. 18 December. 0500-1900. 170 species; 25,125 individuals; 40 observers in 11 parties; 91 field-hours; 52 field-miles by foot; 111 field-miles by car.—The white plumage with black wing tips clearly identified the *White Pelican* flying over the marshes near Murphy Island (E.B. Chamberlain, David Chamberlain, Robert Edwards). Martha Shuler flushed the *Least Bittern* from a cattail

marsh and noted the buff wing patches. The *Semipalmated Sandpipers* were carefully compared with Western and Least Sandpipers by the E.B. Chamberlain party. [As identification of this species is difficult, and there is still no winter specimen north of Florida, Christmas Count sightings of Semipalmateds in the Carolinas must be treated with caution, if not skepticism.—HL] Pete Laurie noted the stout black bills and overall whitish plumage of the *Gull-billed Terns*. The *Swainson's Thrush* (Perry Nugent) was identified by the buffy cheeks and eye ring, as well as by the absence of a reddish tail. Nugent also saw two of the three *Prairie Warblers* and the *Lincoln's Sparrow*; buffy and finely streaked breast of the latter bird was noted. Robert Whitcomb saw the *Henslow's Sparrow* in a grassy Carolina bay. [Good details.—HL]—JAY SHULER, P.O. Box 288, McClellanville, S.C. 29458.

CHARLESTON, S.C.: Center unchanged. 31 December. 0600-1800. 160 species; 20,343 individuals; 36 observers in 10 parties; 81 field-hours; 54 field-miles by foot; 222 field-miles by car.—Three birders observed the immature *Bald Eagle*. Bill Elliot, a non-participant, reported the *Peregrine Falcon*. Arthur Wilcox and Peter Horlbeck saw the adult male *Summer Tanager*, the second consecutive count report for this species.—J.R. HARRISON, Biology Department, College of Charleston, Charleston, S.C. 29401.

HILTON HEAD ISLAND, S.C.: Center unchanged. 17 December. 0300-1800. 139 species; 11,642 individuals; 43 observers in 14 parties; 108 field-hours; 38 field-miles by foot; 244 field-miles by car.—Heavy all-day fog prevented any boat coverage. Nancy Cathcart saw the *Wood Stork* at a locality where as many as 40 roosted in the fall. [A Pectoral Sandpiper without details was removed from the list.—HL]—LOUISE LACOSS, 1 Elliot Place, Hilton Head Island, S.C. 29928.

COASTAL PLAIN

BEAUFORT COUNTY, N.C.: Center unchanged. 1 January. 0600-1630. 89 species; 9512 individuals; 18 observers in 9 parties; 69 field-hours; 21 field-miles by foot; 250 field-miles by car.—GERALDINE COX, Route 1, Box 151A, Merritt, N.C. 28556.

PAMLICO COUNTY, N.C.: Center unchanged. 18 December. 0600-1700. 72 species; 4892 individuals; 9 observers in 3 parties; 26 field-hours; 9 field-miles by foot; 180 field-miles by car.—GERALDINE COX, address as above.

DILLON COUNTY, S.C.: Center unchanged. 3 January. 0730-1730. 60 species; 1593 individuals; 4 observers in 3 parties; 14 field-hours; 4 field-miles by foot; 85 field-miles by car.—JOHN H. WILSON, Box 535, Dillon, S.C. 29536.

CUMBERLAND COUNTY, N.C.: Center unchanged. 1 January. 0630-1745. 74 species; 7976 individuals; 4 observers in 3 parties; 22 field-hours; 9 field-miles by foot; 68 field-miles by car.—Rather poor weather and a scarcity of observers made for an uneventful count. [A Wood Thrush at a feeder was deleted because of unsatisfactory details. Two Blackpoll Warblers at a feeder with fairly good details were rejected because of the very unlikely nature of such a record and the difficulty of identification of this species. The details were "birds with pale legs, white under tail, one distinct wing bar and another less distinct, greenish wash on breast, streaking on back seen only on one individual." The report may well be correct, but I am not entirely convinced.—HL]—PHILIP J. CRUTCHFIELD, 901 Montclair Road, Fayetteville, N.C. 28304.

SOUTHERN PINES, N.C.: Center unchanged. 19 December. 0600-1830. 79 species; 3229 individuals; 3 observers in 3 parties; 18.5 field-hours; 8 field-miles by foot; 140.5 field-miles by car.—A white-plumaged heron or egret was seen on count day, as well as before and after the count, but its identity was never determined. The Compiler found the female *Common Merganser* at Lake Surf, only the second winter record for the area. The Compiler also found the first winter record for the area of the *White-eyed Vireo*, an immature bird at Lakeview. Waterfowl numbers were up, but land birds were scarce. [Good details.—HL]—J.H. CARTER III, P.O. Box 891, Southern Pines, N.C. 28387.

COLUMBIA, S.C.: Center unchanged. 17 December. 0500-1730. 97 species; 23,730 individuals; 27 observers in 9 parties; 77.5 field-hours; 47 field-miles by foot; 375 field-miles by car.—Jack and Ken Hanson saw the light-phase *Rough-legged Hawk*, two male *Yellow-headed Blackbirds*, and immature *Bald Eagle* at Fort Jackson. They also noted the two male *Merlins* on utility poles at locations 5 miles apart. The Compiler saw the *Orange-crowned Warbler* in a dense tangle of shrubs and vines. The female *House Finch* was at Hope Dunlap's feeder, the third straight winter the species has occurred there. [Indisputable details.—HL]—BRIAN CASSIE, Apt. L-4, 4215 Bethel Church Road, Columbia, S.C. 29206.

AIKEN, S.C.: Center unchanged. 26 December. 0530-1830. 86 species; 56,358 individuals; 11 observers in 6 parties; 43.5 field-hours; 14 field-miles by foot; 145 field-miles by car.—The marsh bird count was good, thanks to the efforts of Will Post.—JEANNINE ANGERMAN, 1326 Evans Road, Aiken, S.C. 29801.

ROANOKE RAPIDS, N.C.: Center unchanged. 1 January. 0600-1800. 104 species; 960,757 individuals; 11 observers in 6 parties; 59.5 field-hours; 38 field-miles by foot; 158 field-miles by car.—The two adult *Double-crested Cormorants* (Paul McQuarry) were seen at Roanoke Rapids Lake, and the *Great Egret* (Harry LeGrand, Eloise Potter) was assumed to be the same bird noted at two locations on Occoneechee Neck. Ricky Davis observed four *Long-billed Marsh Wrens* in a marshy ditch at the Burgwynn Farm; white eye line and streaked back were noted. McQuarry also saw the male *Brewer's Blackbird* in a small tree near a peanut field, and the call note was heard as well. The *Snow Bunting* was seen by the Compiler in a large peanut field at the Burgwynn Farm feeding with a mixed flock of blackbirds. Marks noted were the white wing patches, short sparrow-like bill, blackish tail, light brown upperparts, and pure white underparts. [Excellent details.—HL]—J. MERRILL LYNCH, 539 Henry Street, Roanoke Rapids, N.C. 27870.

PIEDMONT

VANCE COUNTY, N.C.: Center unchanged. 17 December. 0500-1600. 59 species; 2178 individuals; 5 observers in 2 parties; 31 field-hours; 11 field-miles by foot; 189.5 field-miles by car.—NEITA ALLEN, 152 Lakeview Drive, Henderson, N.C. 27536.

RALEIGH, N.C.: Center unchanged. 17 December. 0500-1730. 97 species; 633,629 individuals; 45 observers in 22 parties; 170 field-hours; 105 field-miles by foot; 280 field-miles by car.—The count was hampered both by intermittent showers and the absence of several competent observers. The female *Common Goldeneye* (Merrill Lynch) was at Lake Wheeler. Joshua Lee, Betty Davis, and Lloyd Davis viewed the *Merlin*, apparently a female or immature, on posts and in the top of a tree. The *Long-billed Marsh Wren* (Compiler) was at the head of Lake Benson and was seen 2 weeks earlier, whereas *Solitary Vireos* were reported by Clark Olson and John Fussell in separate parties. [Good details.—HL]—R.J. HADER, 3313 Cheswick Drive, Raleigh, N.C. 27609.

DURHAM, N.C.: Center unchanged. [I suggest that the count circle be shifted eastward several miles to include Beaverdam Reservoir in northern Wake County. The present circle practically touches the Chapel Hill count circle.—HL] 18 December. 0430-1715. 79 species; 25,956 individuals; 21 observers in 11 parties; 77 field-hours; 43 field-miles by foot; 215 field-miles by car.—The two male *Common Goldeneyes* (Paul Lancaster, Owen McConnell, David McConnell, Pat McConnell) were joined by a female the following day. The Norman Budnitz party saw the female *Red-breasted Merganser*. The presence of the new Beaverdam Reservoir a few miles outside the count circle may have been responsible for attracting these and other ducks that are normally rare in this area. [Good details.—HL]—JOHN HORN, Botany Department, Duke University, Durham, N.C. 27706.

CHAPEL HILL, N.C.: Center unchanged. 2 January. 0530-1830. 86 species; 14,028 individuals; 45 observers in 20 parties; 160 field-hours; 95 field-miles by foot; 386 field-miles by car.—The five male *Greater Scaups* were seen on a pond by Jim Keighton; green and rounded heads were seen in good light. [A Rough-legged Hawk with unsatisfactory

details was deleted, as was a Broad-winged Hawk with nary a single detail. A Yellow-throated Warbler, without details, was accepted only because the species has been reported, with details, on the two previous Christmas counts.—HL]—W.H. WAGNER, Route 2, Falls of New Hope, Chapel Hill, N.C. 27514.

NEW HOPE RIVER, N.C.: Center at crossing of New Hope River and SR 1700. 1 January. 0530-1730. 76 species; 8800 individuals; 35 observers in 15 parties; 94 field-hours; 55 field-miles by foot; 244 field-miles by car.—Terry Logue reported the two *Merlins*, though only one was seen well; dark gray back, no dark markings on the face, and the barred tail were seen at close range in flight and perched at a large farm area. The *White-eyed Vireo* (Jim McConnell) was carefully watched in a blackberry thicket. The *Solitary Vireos* were seen by Eric Garner and David McConnell in separate parties; both were in pine forests with chickadees. One of the two *Northern Orioles* was a female in rural country seen by the Compiler; almost all winter orioles are seen near feeders in towns. The Compiler and Julie Moore observed the two *White-winged Crossbills* near the top of a deciduous tree adjacent to pines along the Deep River at SR 1011. Although the light was not good and the crossed bills could not be seen, the pink-purple color of the male, with the two broad white wing bars, was carefully noted. The second bird, undoubtedly a female, was yellow-brown in color, but it flew before the observers could check the wing markings. The observers later saw approximately a dozen Purple Finches in the area; these latter birds were of a different color, shape, and size than the crossbills, and also had more white below than the crossbills. [Excellent and indisputable details for all rarities, including the crossbills.—HL]—BARBARA ROTH, 7 Lone Pine Road, Chapel Hill, N.C. 27514, and ERIC GARNER (Co-compiler), 3519 Racine Street, Durham, N.C. 27707.

GREENSBORO, N.C.: Center unchanged. 17 December. 0530-1630. 87 species; 109,072 individuals; 30 observers in 11 parties; 81 field-hours; 36 field-miles by foot; 284 field-miles by car.—Larry Crawford first observed the immature *Whistling Swan* several days before the count, but it was found dead of a gunshot wound on 20 December. The *Green Heron* (Helen Black) was on a small pond in a suburban area where the species was seen regularly in the summer and fall. The two *Vesper Sparrows* (Carolyn Allen, Ida Mitchell, Emily Tyler) were a rare winter find. The count totals were respectable despite rain nearly all day. [Good details.—HL]—DONALD ALLEN, 2611 David Caldwell Drive, Greensboro, N.C. 27408.

WINSTON-SALEM, N.C.: Center unchanged. 31 December. 0500-1830. 80 species; 2,009,839 individuals; 32 observers in 12 parties; 96 field-hours; 42 field-miles by foot; 181 field-miles by car.—Royce Hough, Dot Shiffert, and Jerry Shiffert carefully studied the female *Greater Scaup* at rest and in flight; white wing stripe extended into the primaries. These observers saw the two female *Common Mergansers* at Salem Lake on count day, and three were seen there on following days. The female *Common Yellowthroat* (Charles Frost, Linda Moore, Ramona Snavely) was just the second winter record for the area. [Good details.—HL]—RAMONA R. SNAVELY, 115 Plymouth Avenue, Winston-Salem, N.C. 27104, and FRAN M. BALDWIN, 1030 Englewood Drive, Winston-Salem, N.C. 27106.

STANLY COUNTY, N.C.: Center unchanged. 31 December. Dawn-1700. 65 species; 4159 individuals; 12 observers in 6 parties; 115 field-hours; 61 field-miles by foot; 46 [?—HL] field-miles by car.—The *Common Redpoll* was seen at a feeder by Mary Dyer and compared with Purple Finches. [No description of the redpoll was received, even though I accepted the report. A Little Blue Heron, Wood Thrush, and Black-and-white Warbler were reported without details; these were deleted from the list. Two Ladder-backed (!) Woodpeckers, reported with only the observers' names, were obviously misidentified.—HL]—JOE R. FRANKLIN and LYNN HARRINGTON, Morrow Mountain State Park, Route 2, Box 204, Albemarle, N.C. 28001.

IREDELL COUNTY, N.C.: Center unchanged. 22 December. 0700-1630. 65 species; 5997 individuals; 14 observers in 4 parties; 35 field-hours; 18 field-miles by foot; 158 field-miles by car.—SAMUEL A. CATHEY, P.O. Box 671, Statesville, N.C. 28677.

CHARLOTTE, N.C.: Center unchanged. 31 December. 0600-1730. 81 species; 12,816 individuals; 18 observers in 8 parties; 52 field-hours; 27 field-miles by foot; 222 field-miles by car.—The three adult *Whistling Swans* were seen on Creech's Pond in York County, S.C., by Flo Cobey and party. *Wood Ducks* and *Rusty Blackbirds* were seen in excellent numbers.—BECKY and JOE NORWOOD, 1329 Goodwin Avenue, Charlotte, N.C. 28205.

GREENWOOD, S.C.: Center 1 mile NW of the intersection of routes 34 and 248 in Ninety Six. 18 December. 0500-1800. 94 species; 7914 individuals; 3 observers in 3 parties; 27 field-hours; 5 field-miles by foot; 250 field-miles by car.—Brian Cassie and the Compiler observed the dark-phase *Rough-legged Hawk* soaring for approximately 1 minute. The tail was white on the basal half, and the primaries and secondaries were white from below; otherwise, the bird was all dark in color. The five *Double-crested Cormorants* at Lake Greenwood were not unusual, as the species is regularly seen all fall and spring there. The male *Greater Scaup* was seen for several days prior to the count on a small farm pond by the Compiler. The female *Common Merganser* (Compiler) was on Lake Greenwood three days prior to the count. [Excellent details.—HL]—BOB LEWIS, 308 E. Creswell Avenue, Greenwood, S.C. 29646.

GREENVILLE, S.C.: Center unchanged. 31 December. 700-1700. 48 species; 2032 individuals; 6 observers in 2 parties; 10 field-hours; 6 field-miles by foot; 30 field-miles by car.—ROSA LEE HARDIN, Star Route, Cleveland, S.C. 29635.



CLEMSON, S.C.: Center unchanged from previous Christmas counts. 17 December. 0600-1800. 86 species; 15,062 individuals; 11 observers in 6 parties; 49 field-hours; 22 field-miles by foot; 220 field-miles by car.—The *Red-throated Loon* (Bob and Lisa Lewis) was seen through a Questar on Lake Hartwell; the slim build, slim neck, thin upturned bill, white cheek, and grayish top of head, neck, and body were noted. This is the first record for the area. The Lewises also found the immature *Snow (Blue) Goose* and *Bewick's Wren* near Townville. The two female *Northern Shovelers* (Compiler, Imre Karafiath) were at a farm pond near Pendleton. High numbers of *Red-headed Woodpeckers*, *Blue Jays*, and *American Goldfinches* were noted. [Excellent details.—HL]—PAUL B. HAMEL, Department of Zoology, Clemson University, Clemson, S.C. 29631.

ELKIN-RONDA, N.C.: Center unchanged. 26 December. 0700-2200. 54 species; 2076 individuals; 14 observers in 4 parties; 43 field-hours; 12 field-miles by foot; 49 field-miles by car.—LIN HENDREN, P.O. Box 148, Elkin, N.C. 28621.

CALDWELL COUNTY, N.C.: Center unchanged. 28 December. 0700-1900. 58 species; 2555 individuals; 8 observers in 5 parties; 46 field-hours; 12 field-miles by foot; 56 field-miles by car.—HELEN E. MYERS, 310 Beall Street NW, Lenoir, N.C. 28645.

MOUNTAINS

TRYON, N.C.: Center unchanged. 29 December. 0800-1730. 60 species; 801,337 individuals; 11 observers in 4 parties; 33 field-hours; 6 field-miles by foot; 202 field-miles by car.—[The only species reported as unusual was a Great Blue Heron, yet Broad-winged Hawk, Black-capped Chickadee, and Tree Sparrow were listed on the count! The last three species were deleted from the count.—HL]—MARTHA S. FREDERICK, P.O. Box 1254, Tryon, N.C. 28782.

BREVARD, N.C.: Center unchanged. 17 December. Coverage times unknown. 59 species; 3686 individuals; 35 observers in 10 parties; 59 field-hours; 42 field-miles by foot; 114 field-miles by car.—The *Common Loon* was seen by five birders on Eva Good Lake at Cedar Mountain, and later it was seen on nearby Summit Lake. The *Merlin* was seen at close range, in flight and perched on a post, by Betty McIlwain; banded tail and brown color without rusty in the plumage were noted. [Good details.—HL]—WALTER C. HOLLAND JR., 290 Maple Street, Brevard, N.C. 28712.

BUNCOMBE COUNTY, N.C.: Center unchanged. 31 December. 0715-1730. 59 species; 4173 individuals; 24 observers in 9 parties; 64 field-hours; 26.5 field-miles by foot; 202 field-miles by car.—The *Gray Catbird* (John Hall, Joyce Hall) was seen near Fairview in a brushy area.—ROBERT RUIZ, 300 Wilson Avenue, Swannanoa, N.C. 28778.

GRANDFATHER MOUNTAIN, N.C.: Center at intersection of Wilson Creek and SR 1514. 28 December. 0645-1730. 27 species; 1524 individuals; 8 observers in 4 parties; 29.5 field-hours; 8.5 field-miles by foot; 137.5 field-miles by car.—MARGERY PLYMIRE, Box 306, Linville, N.C. 28646.



Roundtable

... with Louis C. Fink

300 Club?

The 600 Club lists well over 100 observers who have recorded 600 species north of the Rio Grande River. Edwin Stearns of South Carolina with 629 species seems to be the only member in our territory. You can receive regular reports on the 600 Club from Terry Moore, 2699 Twigg's Circle, Marietta, Georgia 30067, for \$5 a year per person or \$7 for husband and wife.

Since keeping a life list is fun, it has been suggested that we inaugurate a 300 Club for the Carolinas. Anyone who has identified 300 species of birds in North Carolina, in South Carolina, or in the two states combined qualifies as a member. Send your totals to this department editor. Rumor has it that when the figures are posted Paul Sykes and Harry LeGrand will be tied for the top spot, but it would not be surprising to see some less well known bird watchers in close contention.

We use the word "fun" because so many purists think life lists and state lists are a waste of time—and maybe even harmful, in that people stretch for new records. If we start a 300 Club, it will be purely for entertainment, although it never hurts to see what birds you have missed in your own State. (Have you heard Eloise Potter moan about the life-list Olive-sided Flycatcher that got away from her at the Fontana CBC meeting?)

So, send in your name, your address, and the number of species you have identified in the field in each of the Carolinas as well as in the entire CBC region. Be sure to mention a species that has eluded you. Count birds found close enough to shore so the observation point can be reached by a small boat leaving a Carolina port and returning the same day.

All is on the honor system, of course. There is no prize, so no point in exaggerating. To "identify" a bird means that you saw it alive in the wild and checked its field marks so that you are able to recognize it again. I found a Saw-whet Owl killed by a car one day; it's not on my life list. High above Denver, a friend pointed to a flash of blue and yelled "Mountain Bluebird"; it's not on my life list. On the other hand, I was alone in the rain high in the Sierras one day and saw a busy woodpecker with a startling white head. Even I know a White-headed Woodpecker when I see one.

So be honest with yourself in counting species observed. You're the only one who has to be satisfied.

Scarlet Sage Attracts House Finches

Mr. and Mrs. Cecil Alford of Wendell, N.C., report that scarlet sage, long known to be favored by nectar-sipping hummingbirds, has seeds that attract House Finches. Has anyone else noticed House Finches feeding on a particular plant?

More Fawn-colored House Sparrows

I have more than once seen House Sparrow mutants as described in the Crutchfield note (Chat 42:35). Back in the early 1950s one appeared at my feeder, and the color spread through the local population in the next few years. That population was wiped out by a disease that struck the sparrows about then. I enjoyed reading Crutchfield's musings on

the literature. As to the selective value of the fawn trait, Crutchfield did not mention the negative selective value of a trait that makes an individual stand out in a flock. Several articles lately have dealt with the problems faced by an unusual individual that a predator may "fix" on and pursue relentlessly.

Another factor that works against a mutant gene in a large population is mathematical. The new gene, however great the advantage it gives the few individuals expressing it, is likely to be overwhelmed by the far more numerous bearers of the old gene. In small colonies of birds that settle in a new area where interbreeding with the main population is impossible, mutant strains have a much better chance of persisting. Although Ernst Mayr's *Animal Species and Evolution* (Harvard University Press 1963) has been around for 15 years, a long time considering the pace of science, and although some of Mayr's basic tenets recently have been questioned, his book remains an excellent reference on the mechanics of natural selection. —JAY SHULER, P.O. Box 288, McClellanville, S.C. 29458.

Bird Club Guide

A Guide to North American Bird Clubs by Jon E. Rickert (Avian Publications, Inc., P.O. Box 310, Elizabethtown, Kentucky 42701) is now available from the publisher for \$10.00 per copy plus 75¢ for postage and handling on the first copy and 25¢ on each additional copy. This hardcover book contains over 575 pages of information important to the traveling bird watcher. It includes listings for over 835 clubs from Alaska to Panama, favorite birding areas for each club, names and phone numbers of local bird students who are willing to help visitors and newcomers, rare bird alert numbers, lists of local publications about birds, and other helpful facts such as club meeting times and places. Traveling bird watchers will want to pack this book right along with the field guides and binoculars.

Homes for Bluebirds

Two Bailey men spend nearly all of their spare time putting up bluebird boxes around golf courses from North Carolina to Florida and returning to check on the nesting success of the occupants. The men are Jack Finch and Ronald Bissette, president and vice president respectively of Homes for Bluebirds, Inc., a non-profit organization devoted to providing properly constructed nest boxes for Eastern Bluebirds and to informing the public about the need for protecting bluebirds. The work is supported by purchases of nest boxes and brochures as well as by tax deductible contributions.

Some of the golf courses where you may find evidence of the work done by Jack Finch and Ronald Bissette include ones at Nashville, Willow Springs, Scotland Neck, Swansboro, Pinetops, Roanoke Rapids, and Gastonia in North Carolina and at Rock Hill, York, and Clover in South Carolina. Finch and Bissette are experimenting with nest boxes made from two specially treated fiberboard flower pots. Data from the Star Hill Golf Course near Swansboro indicate that the double-pot boxes work very well.

Conventional wooden bluebird boxes are sold at a current price of \$7 each ppd. For further information write Homes for Bluebirds, Inc., c/o Finch's Blueberry Nursery, Route 1, Bailey, N.C. 27807.

Autumn Hawk Migration

When bird watchers talk about autumn hawk migration, they usually mention Hawk Mountain in Pennsylvania or a similar vantage point. According to a paper presented by Barbara and David Lee at the 1978 meeting of the Association of Southeastern Biologists, many hawks migrate southward along the Outer Banks of North Carolina. "Observations of the Autumn Hawk Migrations Along North Carolina's Outer Banks" was summarized in *The ASB Bulletin* (25:53, April 1978).

The authors observed the fall migrations of diurnal raptors in the autumns of 1975, 1976, and 1977 and found that large numbers of these birds follow the Outer Banks. Occasionally as many as 500 hawks were tallied during a period of several hours. By monitoring from key points along the islands, it was possible to ascertain that most of the hawks remained directly over the islands as they moved south. Migration intensity and species

composition varied with the date, the time of day, and the weather. During September and October Accipiters (87%) and Falcons (10%) were the most abundant forms; Harriers and Ospreys were common, Buteos and Vultures rare. Sharp-shinned Hawks were by far the most abundant single species (85%). The open terrain provided an excellent opportunity to compare foraging techniques, which were documented for the seven most common species.

Birdwalk Tips

Jerry W. Via has prepared a very useful booklet called "How to Lead a Birdwalk." He not only offers a pre-trip checklist and suggestions for directing groups of bird watchers but also describes types of walks suitable for different seasons, different times of day and night, different age groups, and different purposes (e.g. photography, nest finding). Copies may be obtained for 50¢ each by writing Virginia Society of Ornithology, c/o Mrs. Myriam P. Moore, 101 Columbia Avenue, Lynchburg, Virginia 24503.

Dr. J. Fred Denton Jr.

It has been my good fortune to tag along on birdwalks with the great ones: Alan and Helen Cruickshank, Edward Chalif, Roger Peterson—and Fred Denton. Like all the great ones, Fred had an enthusiasm for birds which he wanted to share with less knowledgeable beginners.

At our first meeting in 1943, I asked Fred if he could show me a Pileated Woodpecker, a bird hard to find in those days. It took us half a day in the swamps beside the Savannah River, but he knew exactly where to look—and we found the bird. When a war-time Christmas Count was considered that year, Fred and I were the only ones available, and we split the territory: he below the Fall Line, I above it. (Fred had serious doubts about my Blue-gray Gnatcatcher, but was too kind to say so.) When one of his distinguished birding friends came to Augusta, or when he found something like the Royal Tern, Fred called me to share the experience.

The Georgia Ornithological Society planned a meeting in 1943. Fred and I pooled our gasoline ration coupons and drove to Athens to meet with Dr. Eugene Odum. I think G.O.S. attendance that day was six or seven!

The war ended and I got out of uniform, but friendship continued, to my everlasting benefit. Much later, Fred handed me the manuscript of the first Georgia Check-list, which he and others had prepared. We gambled the entire assets of G.O.S. (about \$900) and I had the book printed in Atlanta. The gamble wound up with a substantial profit for the Society.

On many a field trip in 1943-46, Fred told me of his dreams for an Augusta Bird Club; he wanted to share his love for and his knowledge of birds. In a sense, the Club is a memorial to this kind and patient man. I miss him.—LCF

General Field Notes

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First Record of the Falcated Teal in North Carolina

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Few specimens of the Falcated Teal (*Anas falcata*) have been collected in North America outside of the coastal Islands of Alaska. Three have been taken in Alaska (Hanna 1920, Byrd et al. 1974) and one in Canada (Brooks 1932). Although sightings have been made in California and Virginia, no specimens of this Asiatic bird are known from the contiguous United States. It is interesting, therefore, to report an adult male Falcated Teal taken in the winter of 1974-75 from the Davis impoundment, Carteret County, N.C.

The bird was first observed at the Davis impoundment in December 1974, by Eugene Pond, who believed it to be in poor health because it had difficulty keeping the head and wings rigid. Upon returning to the site a few days later, Pond found its partially eaten carcass on the beach. It is probable that in its weakened condition the bird fell easy prey to a predator. The specimen is in the collection of the North Carolina State Museum (NCSM 4503).

Because the Falcated Teal is primarily an Arctic bird of the eastern hemisphere, the nature of this record is open to question. Although it is a handsome species and probably in demand by waterfowl fanciers, there is no indication that this specimen was a captive bird.

Scott and Cutler (1967) reported a sight record from Virginia, the only other record of the Falcated Teal from the east coast of the United States, and discussed the problems of deciding validity of exotic waterfowl reports. Parnell (1974) discussed the policy for accepting such reports for North Carolina. Proof of the authenticity of this species as a member of North Carolina's avifauna may never be obtained, and it appears best to assign the Falcated Teal to the state's hypothetical list in spite of the availability of a specimen.

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[NOTE: This species can now be placed on the hypothetical list for North Carolina. —JFP]

Feeding and Nesting Behavior of the Eastern Wood Pewee

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Received 15 August 1977

On 1 July 1977 we saw a pair of Eastern Wood Pewees (*Contopus virens*) feeding from a powerline at a height of about 3 m in front of a house near Duke University, Durham, N.C. Several days later it was noticed that construction of a small nest had been begun at a height of about 5 m in the fork of a branch of a southern sugar maple (*Acer barbatum* Michaux). Over the period of the next 2 weeks a bird was found sitting on the nest every time the area was checked. On 16 July the eggs had hatched.

The adult pewees now became much more conspicuous in their feeding. The male appeared to be slightly larger than the female. Frequently they were observed on powerlines and in the canopies of nearby red oaks. The birds sat on the perch, looking about for flying insects. When prey was detected, the pewee would sally forth and quickly catch the insect in flight. Even insects flying about vegetation less than 0.5 m in height were sometimes taken by the birds. The insect was then killed and either eaten directly or, more commonly, taken to the nest to be fed to the young. The birds appeared to be highly successful in capturing insects; on one occasion when their success rate was scored, the female went to the nest with food one out of every three times she sallied forth from her perch.

Noting this behavior, we attempted to feed the bird small crusts of bread. After inspecting and letting fall the first few samples, the bird then ceased even to leave the perch for the tossed crumbs. When the bread was replaced by live grasshoppers, however, the bird responded in the normal fashion: first, catching and crushing the insect and then taking it to the young in the nest. Both birds were willing to accept hand-tossed insects, but the female seemed more receptive and had a higher success rate (approaching 100%). The birds accepted grasshoppers, crickets, moths, and larvae feeding on ears of corn, although their usual diet probably consists largely of high-flying insects. They also accepted ladybird beetles but refused a similar-looking beetle collected feeding on horse nettle (*Solanum carolinense* L.). They would merely approach a tossed shield bug and return to the perch. Furthermore, grasshoppers or other insects larger than about 2.5 cm had to be dismembered before the pewees would accept them.

In an attempt to discover whether prey discrimination is visual or olfactory, a grasshopper of suitable size was covered with the body fluids of a crushed shield bug. The pewee accepted the grasshopper, suggesting that the birds rely upon visual cues to discriminate among food items. This system of perception must be quite sharp as the bird could apparently distinguish an edible ladybird beetle from another inedible beetle with similar coloration.

From the time the young appeared to 30 July, when the young birds were fledged, the parents were observed gathering food both in the morning (as late as 1000 EDT) and in the evening (as late as 2000 EDT). The birds became increasingly bold and actually would approach a potential feeder entering the yard and hover waiting for a handout. Finally, the female was willing to take insects from the hands of a feeder.

The Eastern Wood Pewee is reported to lay from two to four eggs per clutch. We do not know the size of the clutch in this case, but two young birds were successfully fledged on 30 July at an age of about 2 weeks. The parents were observed to continue feeding in the area for some time following the departure of the young.

ACKNOWLEDGMENTS

We wish to thank Barbara B. Sears and Lawrence J. Giles for field assistance.

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LeConte's Sparrow Collected on the Outer Banks of North Carolina

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Accepted 1 September 1977

On the morning of 10 January 1975, I secured a male LeConte's Sparrow (*Ammospiza leconteii*), one of two individuals seen in a slightly wet grass-sedge marsh on Bodie Island, Cape Hatteras National Seashore, Dare County, N.C. The collection site was approximately 4 km N of the lighthouse and about 45 meters W of NC 12 near the parking area for hunting blind No. 5. The bird had heavy subcutaneous fat and both testes measured 1.0 x 2.5 mm. The specimen is now No. 527751 of the U.S. National Museum. The identification was confirmed by George E. Watson. The bird collected was apparently one of the two seen in the same area on 29 November 1974 by Ray Chandler and Paul McQuarry (Chat 39:28), who also found the birds on 30 December 1974 during the Bodie-Pea Island Christmas Bird Count (Chat 39:10).

Birds of North Carolina (Pearson, Brimley, and Brimley 1942, revised by Wray and Davis 1959) lists the species as accidental in North Carolina with a specimen taken near Raleigh on 21 April 1894. *The birds, mammals, reptiles, and amphibians of Cape Hatteras National Seashore Recreational Area* (project completion report to the National Park Service) by T.L. Quay (1959) gives no record of LeConte's Sparrow for the Outer Banks, nor did I find the species in that region during the falls of 1964-1966 (Sykes 1967, The fall migration of land birds along the Bodie Island-Pea Island region of the Outer Banks of northeastern North Carolina, unpublished MS thesis, N.C. State Univ.).

[NOTE: Elsewhere in North Carolina the LeConte's Sparrow has been seen in Wake County on 23 October 1965 by H.L. Jones (Chat 30:30), in Macon County on 17 October 1968 by Mary Enloe (Chat 34:49), near Morehead City on 29 November 1970 by John Fussell (Chat 35:59), and in Moore County on 30 April 1972 by Carter and Parnell (Chat 37:26). Regarded as a rare and erratic winter resident in South Carolina (South Carolina Bird Life, Sprunt and Chamberlain 1949, revised 1970 by Burton, p. 635), LeConte's Sparrow was reported on the Charleston Christmas Bird Count on 30 December 1972 by Perry Nugent (Chat 37:16), on the Litchfield-Pawleys Island Christmas Bird Count on 28 December 1974 by Pete Laurie (Chat 39:10), and at Santee N.W.R. on 18 January 1975 by Dennis Forsythe (Chat 39:63).—JFP]

Harris' Sparrow in Wake County, N.C.

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Received 16 June 1977

On 21 November 1976, while studying a flock of sparrows in the new Beaver Dam Reservoir in northern Wake County, N.C., I found an immature Harris' Sparrow (*Zonotrichia querula*). The bird was rather shy but came into the open and perched in tall weeds for about 30 seconds. It was perched about 4 feet off the ground and about 30 feet away. The light was good with the sun to my back. I saw the bird a second time under the same conditions after reference to a field guide.

The bird was a large sparrow that was generally white underneath except for large brown blotches on the upper breast. The throat seemed slightly whiter than the breast and belly. The cheek was whitish with a dark line at the upper edge of the whitish patch. The crown also appeared to have some whitish feathers mixed with dark. The rest of the back was a medium brown. The color of the soft parts was not noted.

White-crowned Sparrows (*Z. leucophrys*) were particularly common in the area and "sat up" with the Harris' Sparrow when I made a "whishing" sound. White-throated Sparrows (*Z. albicollis*) were also present in the vicinity. The large blotches on the upper breast of the Harris' Sparrow separate it from these species and from the western Golden-

crowned Sparrow (*Z. atricapilla*). The combination of white on the cheek with black above, along with the blotches on the breast, indicates that the bird seen was molting from immature to mature plumage.

This apparently constitutes the fourth record of Harris' Sparrow for North Carolina. The first North Carolina record was an immature male collected by Burleigh in March of 1933 in Buncombe County and noted in *Birds of North Carolina* (Pearson et al. 1942). A later sight record of a single bird (incorrectly given in *Birds of North Carolina*, revised 1959, as "a flock of 46") was made at a feeder in Rhonda in November of 1946 (Chat 10:87). The third record was from the Christmas Bird Count at Tryon on 30 December 1976 (Chat 41:43).

BRIEFS FOR THE FILES

HARRY E. LeGRAND JR.

Guest Compiler

(All dates winter 1977-78, unless otherwise indicated)

COMMON LOON: Excellent numbers on inland lakes included 96 seen by Merrill Lynch at Roanoke Rapids Lake, N.C., on 4 December; 45 on Salem Lake near Winston-Salem, N.C., seen by Ramona Snively, Pat Culbertson, and Fran Baldwin on 5 December; and 30 at Lake Murray, S.C., on 21 January and 20 on 5 February, as reported by Bob Lewis.

RED-THROATED LOON: Clark Olson observed one at Beaverdam Reservoir in northern Wake County, N.C., on 12 March, and R.J. Hader saw the same individual there on 18 March.

RED-NECKED GREBE: One was seen by Anne Waters on 12 November at the Savannah National Wildlife Refuge, S.C., and two were seen on Pamlico Sound near Frisco, N.C., on 3 December by Rudolph Keller.

HORNED GREBE: High inland counts were 1350 at Lake Murray, S.C., on 5 February (Bob Lewis), 126 at Roanoke Rapids Lake, N.C., on 4 January (Merrill Lynch), and 100+ at Lake Norman, N.C., on 4 February (Dick Brown).

DOUBLE-CRESTED CORMORANT: This species lingered at Lake Greenwood, S.C., until 21 December, with a peak of five seen on 15 and 18 December by Bob Lewis.

ANHINGA: One was studied carefully in flight by Paula H. Rose in eastern Wake County, N.C., on 15 February, a most unusual winter record.

GREEN HERON: Jim Mulholland noted an individual at Raleigh, N.C., as late as 6 December.

CATTLE EGRET: In the Raleigh, N.C., area, single birds at Lake Benson on 27 March (Jim Mulholland) and at Beaverdam Reservoir on the same day (Clark Olson) were rather early.

GREAT EGRET: Rare inland reports for late winter were one seen at Lake Greenwood, S.C., on 14 to 18 February by Bob Lewis, and another seen at Beaverdam Reservoir, N.C., on 27 March by Clark Olson.

WOOD STORK: Remarkable early winter sightings for North Carolina were three in Asheville on 2 December, as seen by Larry Freeman and Robert Bruce, and one seen by John Fussell at Fort Macon on 10 December.

WHITE-FRONTED GOOSE: Five birds at Santee National Wildlife Refuge, S.C., on 26 February, as observed by Bob and Lisa Lewis, was an excellent count for the Carolinas.

SNOW GOOSE: Noteworthy inland reports were ten birds (two blue-phase) seen flying south over Raleigh, N.C., on 8 March by Dick Brane; one at Rocky Mount, N.C., all

winter, as reported by Lou Fink; and a blue-phase bird seen near Townville, S.C., on 3 December by Sidney Gauthreaux and Harry LeGrand.

FULVOUS WHISTLING-DUCK: Pat Probst reported as many as 80 birds at Huntington Beach State Park, S.C., on 14 December, and Larry P. Hartis saw 35 at Pea Island, N.C., on 23 December.

PINTAIL: R.J. Hader had a peak of 50 birds at Beaverdam Reservoir, N.C., from late February to mid-March, an excellent inland count.

NORTHERN SHOVELER: Unusual inland in winter were two birds near Raleigh, N.C., on 3 February (Jim Mulholland), and one near Pendleton, S.C., from 22 to 27 January (Harry LeGrand).

REDHEAD: On 26 February Jay Carter observed flocks of 26 birds each at Whispering Pines and Lake Surf, both in Moore County, N.C.

CANVASBACK: Pat Culbertson et al. had noteworthy counts of 75 at High Point Reservoir, N.C., on 11 February, and 29 at Belews Creek Reservoir, N.C., on 3 February.

GREATER SCAUP: Single males were seen near Raleigh, N.C., from 4 to 6 February by Jim Mulholland, and near Greenwood, S.C., on 16 and 18 December by Bob Lewis. The latter observer also had a female at Greenwood from 12 to 24 February.

OLDSQUAW: A female seen on Lake James, N.C., on 13 February by Tom Haggerty was a rare inland record.

COMMON EIDER: An immature male was observed in Beaufort Inlet, N.C., by many observers from 18 December to 5 February, fide John Fussell.

WHITE-WINGED SCOTER: Bob Lewis saw a female on Lake Greenwood, S.C., on 15 January.

SURF SCOTER: A female was noted in Lexington County, S.C., on 11 December by Charles Whitney and Brian E. Cassie, and it remained for several days.

BLACK SCOTER: Jim Mulholland saw a female on 7 December at Lake Wheeler, near Raleigh, N.C.; all scoters are quite rare away from the coast.

HOODED MERGANSER: Excellent inland counts were 314 at Roanoke Rapids Lake, N.C., on 11 February, as seen by Merrill Lynch; and 300 noted by R.J. Hader near Raleigh, N.C., on 7 January.

COMMON MERGANSER: Very high inland totals were 18 at Roanoke Rapids Lake, N.C., on 22 January (Merrill Lynch); 16 on Lake Greenwood, S.C., on 10 February (Bob Lewis); and 10 at Thagard's Lake near Whispering Pines, N.C., on 26 February (Jay Carter). This uncommon species was also noted during the winter in numbers of three or fewer at Beaverdam Reservoir, Cowans Ford Dam, Creedmoor, Raleigh, and Winston-Salem in North Carolina, and at the Savannah National Wildlife Refuge in South Carolina.

RED-BREASTED MERGANSER: Counts of 94 at Lake Murray, S.C., on 23 January and 80 there on 5 February, as seen by Bob Lewis, and 22 at Lake Surf, N.C., on 3 December, as reported by Jay Carter, were quite good for the winter season at inland sites.

SWALLOW-TAILED KITE: Norm and Carol Reigle observed one at Atlantic, N.C., on 19 March.

GOSHAWK: Two adults were carefully described by Jean McCoy at Long Beach, N.C., on 19 October. Single birds were noted, both on 4 December, by Barbara Lee at Turkey Pen Gap in western Henderson County, N.C., and by Merrill Lynch at Occoneechee Neck in Northampton County, N.C.

ROUGH-LEGGED HAWK: Single individuals were noted at Lake Tahoma, N.C., on 3 December by Mike Tove, and in northern Beaufort County, S.C., on 19 February by William Reid.

GOLDEN EAGLE: A very rare sighting away from the mountains was made by Daniel M. Kaplan at Chapel Hill, N.C., where he saw an immature on 22 February. In the mountains an injured adult was found near Shining Rock, Haywood County, N.C., in mid-

February; Robert Brown helped to heal the bird and released it in March.

BALD EAGLE: In addition to several coastal reports, noteworthy inland sightings were two birds (an immature and a subadult) seen by Merrill Lynch at Roanoke Rapids Lake, N.C., on 3 December; an adult seen by Jim Mulholland near Raleigh, N.C., on 6 December; and an immature seen by members of the Charleston Natural History Society at Santee National Wildlife Refuge, S.C., on 22 January.

OSPREY: Late birds were singles at North Wilkesboro, N.C., on 27 November (Louise Winstead), and at Beaverdam Reservoir, N.C., on 23 December (R.J. Hader).

MERLIN: Ethel Floyd banded one on 19 December at Cashiers, N.C., and saw perhaps the same bird there on 1 January. Another was seen near Pendleton, S.C., on 5 February by Harry LeGrand, and probably the same individual was seen several miles away on 25 February by LeGrand and Sidney Gauthreaux.

SANDHILL CRANE: One was an excellent find near Hampton, S.C., on 18 November, as seen by Anne Waters.

SORA: An early individual was seen at Beaverdam Reservoir, N.C., on 4 March by R.J. Hader.

BLACK RAIL: At least one responded to a tape recording at 2300 on 23 March at Cedar Island, N.C., as reported by John Fussell.

SPOTTED SANDPIPER: Kevin Hints and John Fussell observed one north of its winter range at Williston, N.C., on 11 February.

LESSER YELLOWLEGS: Bob Lewis had an excellent midwinter count of 150 at a spoil area in South Carolina just north of Savannah, Georgia, on 14 January.

PECTORAL SANDPIPER: Very early spring migrants were seen at Clemson, S.C., by 19 February (Harry LeGrand), at High Point Reservoir, N.C., by 23 February (Ramona Snively et al.), and at Huntington Beach State Park, S.C., by 26 February (Bob and Lisa Lewis).

DUNLIN: Sixty were seen at Lake Mattamuskeet, N.C., as late as 3 December by John Fussell.

LONG-BILLED DOWITCHER: The peak count at the Savannah spoil area in Beaufort County, S.C., was 100 on 28 January, as noted by Harry LeGrand, Bob Lewis, and Lisa Lewis. Four were noteworthy inland at the Santee refuge near Summerton, S.C., as seen by Brian E. Cassie et al. on 22 January.

WESTERN SANDPIPER: John Fussell saw one at Lake Mattamuskeet, N.C., on 3 December, somewhat far inland for the species at this season.

MARbled GODWIT: A good count of 192 was made by Ricky Davis at Fort Fisher, N.C., on 19 December.

AMERICAN AVOCET: Excellent winter counts were 450 at the spoil area in South Carolina near Savannah, Georgia, on 14 and 28 January (Bob Lewis), and 350 at South Island, S.C., on 12 December (John Cely).

PARASITIC JAEGER: Ricky Davis saw three individuals, plus an unidentified jaeger, at the Wrightsville Beach, N.C., jetty on 16 December.

ICELAND GULL: A second-year bird was carefully identified by David Hughes and Robert Anderson at Oregon Inlet, N.C., on 19 February. It was in the surf with Herring Gulls that were slightly larger; the small, mostly dark bill had a flesh-colored base, and the plumage was entirely white.

HERRING GULL: Forty seen at the Tar River Reservoir near Rocky Mount, N.C., in February by Lou Fink was a good inland count.

BONAPARTE'S GULL: An excellent total of 200 on 5 February at Lake Murray, S.C., was noted by Bob Lewis. Other notable inland winter counts were reported by R.J. Hader in the Raleigh, N.C., area: 40 at Lake Wheeler on 8 December, and 12 at Beaverdam Reservoir on 19 February.

BLACK-LEGGED KITTIWAKE: Jim Mulholland observed four subadults at Surf City,

- N.C., from 25 to 27 March; the birds were often seen on the beach.
- FORSTER'S TERN:** Two were surprisingly seen inland on the western shore of Lake Moultrie, S.C., on 26 February by Bob Lewis.
- LEAST TERN:** Anne Waters saw an individual at Hunting Island, S.C., on 11 February, a rare winter report.
- CASPIAN TERN:** Three birds were north of their winter range at Cape Hatteras point, N.C., on 4 January, as observed by Robert Anderson.
- GROUND DOVE:** The first record for the northwestern corner of South Carolina was a single bird present at Pamela Spencer's feeder near Pendleton from late December into early March.
- SHORT-EARED OWL:** Noteworthy reports were single individuals seen in Lincoln County, N.C., on the evening of 24 October by Roger McPherson; at Beaverdam Reservoir, N.C., on 16 December by Eloise Potter and on 15 February by Merrill Lynch; at the Santee refuge, S.C., on 22 January by members of the Charleston Natural History Society; and in Lexington County, S.C., along the Congaree River on 28 January by Charles Whitney and Brian E. Cassie.
- WHIPP-POOR-WILL:** Mrs. Ellison Smith noted the species all summer (1977) at Lynchburg, S.C., in the coastal plain, and observed a juvenile resting with an adult on a limb near her house on 21 August. A noteworthy winter record was one seen at Bolivia, N.C., on 5 February by Darryl Moffett and Donna Goodwin; the species may winter regularly in this area.
- HORNED LARK:** An excellent count of 130 birds was noted on 2 February by Jim Mulholland near Raleigh, N.C., where the species is quite uncommon.
- HOUSE WREN:** One was seen at a feeder on 1 January by Ethel Floyd at Cashiers, N.C., a rare winter record for the mountain region.
- WHITE-EYED VIREO:** Single birds seen outside the usual winter range were at Aiken, S.C., on 26 December (Anne Waters); at US 1 and Deep River, N.C., near Sanford on 22 January (Clark Olson); and at Rocky Mount, N.C., on 10 February (Lou Fink).
- BLACK-AND-WHITE WARBLER:** Philip J. Crutchfield reported one near Fayetteville, N.C., on 16 February.
- BLACK-THROATED GREEN WARBLER:** A dead individual was found on the University of North Carolina campus at Chapel Hill on the late date of 30 November by Mark Crotteau.
- PALM WARBLER:** One was seen by Annie Leigh Broughton and Johnnie Payne in northern Chatham County, N.C., on 1 February, a rare midwinter record for the central part of the state.
- COMMON YELLOWTHROAT:** A female that spent the winter at Winston-Salem, N.C., was only the second winter record for that area, fide Pat Culbertson and Ramona Snavelly.
- YELLOW-BREASTED CHAT:** One was banded by Elizabeth Teulings at Chapel Hill, N.C., on 3 December.
- SUMMER TANAGER:** A female or immature was carefully identified at Wambaw Creek bridge in the Francis Marion National Forest, S.C., on 3 December by Brian E. Cassie.
- DICKCISSEL:** Single birds were noted at feeders in Charlotte, N.C., from 20 February to 6 March by Dick Brown, and at New Bern, N.C., all February by Jo Clark.
- HOUSE FINCH:** Ten were seen by Clark Olson in Clayton, N.C., on 19 February. High counts at established wintering localities were 150 at the Raleigh, N.C., Rose Garden on 24 February (Kevin Hints and Robbie Blue), and 75 at Stanly Tech in Albemarle, N.C., on 6 December (Dick Brown).
- COMMON REDPOLL:** Five reports, all from North Carolina, indicated a good influx of this species southward in eastern North America this winter. Singles were seen along the coast at Fort Macon from 1 to 10 February by John Fussell, and at Oregon Inlet on

19 February by David Hughes, Bill Akers, and Robert Anderson. At feeders were two in Raleigh on 16 March (Lee and Betty Wheeler), one in Winston-Salem on 25 February and again on 4 March (Dale Gano), and one on the Stanly County Christmas Bird Count.

RED CROSSBILL: Ricky Davis saw a male on 11 December near Orton Plantation in Brunswick County, N.C., the only winter report received.

GRASSHOPPER SPARROW: This species apparently winters regularly near Townville, S.C., as Harry LeGrand observed one on 9 February, and Sidney Gauthreaux saw four there later in the month.

LARK SPARROW: A bird that wintered in Bill Moffitt's yard in Morehead City, N.C., lingered at least until 7 April, as reported by John Fussell.

DARK-EYED (OREGON) JUNCO: Eloise Potter carefully observed as many as three individuals in her yard near Zebulon, N.C., on 4 March and for several days thereafter.

TREE SPARROW: Noteworthy winter reports were single birds seen at Raleigh, N.C., on 5 and 8 February by Kevin Hints and Clark Olson, and at a Chapel Hill, N.C., feeder from 25 January to 12 February by Carol Hamilton. Two were noted by Bill Lezar at Beaverdam Reservoir, N.C., on 23 January.

CLAY-COLORED SPARROW: Sidney Gauthreaux and Harry LeGrand observed an adult near Townville, S.C., on 3 December, a late and very rare inland record.

LINCOLN'S SPARROW: Three individuals were noted between 20 January and 19 February at widely separated locations in the Clemson-Pendleton, S.C., areas by Harry LeGrand and Sidney Gauthreaux, firmly establishing this secretive species as a winter resident there. Another was seen by Jim Mulholland near Raleigh, N.C., on 26 December.

LAPLAND LONGSPUR: Single birds at Pendleton, S.C., on 22 January (Harry LeGrand and Bob Lewis) and at Bodie Island, N.C., on 18 February (Robert Anderson et al.) were the only ones reported this winter.

SNOW BUNTING: Many observers reported this species at Huntington Beach, S.C., from 12 December to 26 February, with a peak count of seven.

BOOK REVIEW

A GUIDE TO THE BIRDS OF VENEZUELA

Rodolphe Meyer de Schauensee and William H. Phelps Jr. 1978. Princeton University Press, Princeton, New Jersey 08540. xxii + 424 p. 40 color plates, 13 black-and-white plates, 41 line drawings by Guy Tudor and others. Appendix. Indexed in English, Spanish, and Latin. 6 x 9 inches. Cloth, \$50.00; paper, \$19.95.

The format of this book is essentially the same as that for Ridgley's very successful *Guide to the Birds of Panama*, which also was published by Princeton University Press. *Birds of Venezuela* illustrates over 900 species in color and nearly 200 additional ones in black-and-white. The plates are grouped in the center of the book with the names of the birds and brief tips on identification on the facing pages. The text gives a detailed description of each species, its range within the republic, and its extralimital range plus notes on habitats, habits, and vocalization. A map of the country is featured on the end papers, and the introduction gives basic information on the geography of Venezuela. This guide also will be useful to bird students in northern Brazil and eastern Ecuador (for which no guides have been published) as well as in Colombia, Guyana, and Surinam. *Birds of Venezuela* is a welcome addition to the literature on the birds of Central and South America.—EFP



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OUR COVER—Gilbert S. Grant photographed a Long-eared Owl in California. This species is found in the Carolinas in winter, and its preferred habitat is dense stands of evergreens.

TV TOWER KILLS IN EASTERN NORTH CAROLINA: 1973 THROUGH 1977

JOSEPH H. CARTER III AND JAMES F. PARNELL

This paper discusses the results of a continuing study on avian mortality at two television transmission towers in southeastern North Carolina. The towers are the WECT TV tower in Bladen County and the WWAY TV tower in Brunswick County. Results from the autumns of 1971 and 1972 were given in an earlier paper (Carter and Parnell 1976). During the present study period, the autumns of 1973 through 1977 three large kills occurred at WECT, while no large kills were recorded at WWAY. The largest kill totaled over 3200 individuals, and several unusual species were found.

Descriptions of the study areas and the towers' histories were included in our earlier paper (Carter and Parnell 1976). The towers were checked irregularly during September and October from 1973 through 1977. No effort was made to visit the towers during the spring. The majority of the fall checks were made at WECT, because past experience indicated that the heaviest mortality was to be expected there. WWAY was checked very infrequently, and it is difficult to draw any conclusions, except that our visits revealed no evidence of significant mortality. Small kills were undoubtedly overlooked at both towers, and there is the possibility that large kills were missed.

RESULTS AND DISCUSSION

Three large kills were recorded at WECT, and data from these kills are presented in Table 1. The first large kill occurred on the night of 30 September-1 October 1973, and over 660 birds were picked up on 2 and 4 October. Due to a delay in discovery and recovery, many birds were lost to predators. This kill contained the first Green Heron, Least Bittern, Black Rail, Belted Kingfisher, and Prothonotary Warbler records for these towers. The kingfisher has been very rare in other tower mortality studies in the Southeast (two in Stoddard and Norris 1967 and in Buskirk 1967). The Virginia Rail was only the second kill record for these towers. The three Swainson's Warblers represent the first record for this species at WECT. Other unusual species were the Traill's Flycatcher (1), Short-billed Marsh Wren (1), and Worm-eating Warbler (1). The most abundant species were Common Yellowthroat, American Redstart, Gray Catbird, Red-eyed Vireo, Ovenbird, and Black-and-white Warbler. Two large piles of feathers from one or two Great Horned Owls were found. We are not, however, sure that this represented tower-induced mortality.

On the night of 4-5 September 1974, a tremendous kill occurred at WECT. Several people assisted in picking up over 3200 birds on 6 and 7 September. This is a very conservative total. Many birds fell in shrub bogs and dense vegetation where recovery was impossible. Other birds fell long distances from the tower. The ground around the tower was carpeted with dead birds, and one area that had been searched by two people yielded another 500 birds when checked a second time. We believe that the number of birds taken by predators and lost in vegetation may have nearly equalled the number found. This was the largest kill discovered since we began monitoring the towers in 1970. New species found in this kill were Eastern Kingbird, Brewster's Warbler, Cerulean Warbler, Louisiana Waterthrush, Canada Warbler, and Orchard Oriole. Most abundant were the American Redstart, Ovenbird, Red-eyed Vireo, Black-and-white Warbler, Common Yellowthroat, Northern Waterthrush, and Prothonotary Warbler. Only one Prothonotary Warbler had been recorded previously in our study. There are only three records for the Clapper Rail in tower kills (all single individuals; Browne and Post 1972, Taylor and Anderson 1973, Carter and Parnell 1976), but this kill yielded 15 individuals at WECT, which is 42 miles inland. The third Virginia Rail and second Black Rail for this study were recorded. The 11 Swainson's Warblers (four previous individuals), 85 Worm-eating Warblers (seven previous individuals), 7 Golden-winged Warblers (one previous individual), and 29 Blue-winged Warblers (one previous individual) were all noteworthy. This trend applies to

TABLE 1. Species and individuals found at three large kills at the WECT TV tower in Bladen County, N.C.

Species	Numbers of Individuals		
	30 Sept. and 1 Oct. 1973	4 and 5 Sept. 1974	27 and 28 Oct. 1975
Green Heron	1	—	—
Least Bittern	1	—	—
Clapper Rail	—	15	—
Virginia Rail	1	1	—
Sora	—	4	—
Black Rail	1	1	—
Belted Kingfisher	1	—	—
Eastern Kingbird	—	4	—
Acadian Flycatcher	3	1	—
Traill's Flycatcher	1	—	—
<i>empidonax</i> sp.	1	—	—
Brown Creeper	—	—	1
House Wren	6	—	7
Winter Wren	—	—	9
Long-billed Marsh Wren	3	1	1
Short-billed Marsh Wren	1	—	—
Gray Catbird	93	—	3
Brown Thrasher	7	—	—
Wood Thrush	2	1	—
Hermit Thrush	—	—	11
Swainson's Thrush	5	1	—
Gray-cheeked Thrush	3	—	—
Veery	6	83	—
thrush sp.	3	—	—
Golden-crowned Kinglet	—	—	9
Ruby-crowned Kinglet	—	—	23
White-eyed Vireo	6	5	—
Solitary Vireo	—	—	2
Red-eyed Vireo	74	478	—
Black-and-white Warbler	49	385	—
Prothonotary Warbler	1	109	—
Swainson's Warbler	3	11	—
Worm-eating Warbler	1	85	—
Golden-winged Warbler	—	7	—
Blue-winged Warbler	—	29	—
Brewster's Warbler	—	1	—
Tennessee Warbler	—	3°	—
Northern Parula	9	33	1
Yellow Warbler	1	21	—
Magnolia Warbler	2	3	1
Cape May Warbler	11	30	—
Black-throated Blue Warbler	24	5	1
Yellow-rumped Warbler	—	—	106
Cerulean Warbler	—	5	—
Yellow-throated Warbler	—	7	—
Chestnut-sided Warbler	—	2	—
Blackpoll Warbler	1	1°	—
Pine Warbler	1	—	—
Prairie Warbler	—	68	—
Ovenbird	53	541	3

TABLE 1, continued

Species	Numbers of Individuals		
	30 Sept. and 1 Oct. 1973	4 and 5 Sept. 1974	27 and 28 Oct. 1975
Northern Waterthrush	8	174	—
Louisiana Waterthrush	—	5	—
Kentucky Warbler	—	28	—
Common Yellowthroat	130	321	12
Yellow-breasted Chat	3	22	1
Hooded Warbler	4	31	—
Canada Warbler	—	8	—
American Redstart	114	670	—
warbler sp.	—	6	—
Bobolink	5	5	—
Orchard Oriole	—	1	—
Northern Oriole	—	18	—
Rose-breasted Grosbeak	1	—	—
Indigo Bunting	2	—	—
Rufous-sided Towhee	—	—	3
Savannah Sparrow	2	—	1
White-throated Sparrow	—	—	1
Swamp Sparrow	—	—	5
Song Sparrow	—	—	5
bird sp. (feathers only)	16+	10+	100+
Total Species	39	41	21
		+1 hybrid	
Total Individuals	660+	3240+	306+

*Identification tentative.

several other species. For instance, our earlier studies yielded only two Kentucky Warblers, but this kill yielded 28. A banded Worm-eating Warbler was recovered. It was banded on 29 April 1972 at Pocomoke, Maryland, and was the second band recovery during the study.

This was the earliest major kill that we have recorded and this undoubtedly contributed to the high individual counts of some early migrant species (e.g. Prothonotary Warbler, Northern Waterthrush, Veery). Later migrants, such as Wood Thrush and Black-throated Blue Warbler, were recorded in low numbers, and the Gray Catbird was missed completely.

The third major kill occurred at WECT on the night of 27-28 October 1975, and over 300 birds were picked up on 29 October. Again many birds were lost to predators. The Yellow-rumped Warbler was the most common species killed, as is typical of late October kills. A single Brown Creeper was only the second record for this study. Several unusually late warblers were recorded: Northern Parula, Magnolia, Black-throated Blue, Ovenbird, and Yellow-breasted Chat.

No major kills were recorded in 1976 or 1977.

Unfortunately, we have little information on the weather associated with these kills. The early September 1974 kill was associated with the passage of a strong early cold front as Hurricane Carmen approached the Gulf Coast, and the others were believed to be connected with the passage of cold fronts. Crawford (1974) presents an excellent summary of the weather factor.

The total of birds found at WECT and WWAY during 1971 and 1972 was 3070 individuals (Carter and Parnell 1976). The three kills at WECT during the 1973-1977 period exceeded 4208 individuals. The 1971 and 1972 data included records of 84 species, while

only 65 species and one hybrid were recorded in the 1973-1977 period. It should be noted, however, that the towers were checked very regularly during 1971 and 1972, and only sporadically from 1973 through 1977. The eight most common species in our 1971 and 1972 data were Common Yellowthroat, Black-throated Blue Warbler, Ovenbird, Yellow-rumped Warbler, Gray Catbird, Red-eyed Vireo, American Redstart, and Black-and-white Warbler, in that order. The 1973 through 1977 totals were led by the American Redstart, Ovenbird, Red-eyed Vireo, Common Yellowthroat, Black-and-white Warbler, Northern Waterthrush, Prothonotary Warbler, and Yellow-rumped Warbler. To date (1971 through 1977) the five most common species from all kills have been Common Yellowthroat (1023), American Redstart (925), Ovenbird (865), Red-eyed Vireo (701), and Black-and-white Warbler (549).

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- P.O. Box 891, Southern Pines, N.C. 28387, and Biology Department, University of North Carolina at Wilmington, Wilmington, N.C. 28401.*

NOTES ON THE BREEDING BIRDS OF THE CAROLINAS

Compiled by ELOISE F. POTTER

A request for nesting data was made in the Summer 1977 *Chat* (41:58). The response has been gratifying, and the reports published below represent a substantial addition to our knowledge of the breeding birds of the Carolinas.

Some of the lists, such as the one from Forsyth County, N.C., are based on data kept for many years and include only species with documented nesting records. Others are based on survey techniques that are useful indicators of nesting activity, but they may include a few very late northbound migrants or very early southbound birds. Regardless of the format, the reports are appreciated, and we hope that additional lists will be received in the near future.

SOUTH CAROLINA STATE PARKS

In June of 1977 the South Carolina Division of State Parks canvassed the bird populations of 14 parks located in all the major geographic regions of the state (Fig. 1). The work was done by volunteers with Brian Elliot Cassie serving as coordinator. Although Mr. Cassie has moved back to Massachusetts, copies of the report he compiled are still available through the South Carolina Division of State Parks. The report lists 8457 birds of 145 species and is too lengthy to be published in full. Highlights are given for the parks of the coast, coastal plain, sandhills, and piedmont. Complete lists are given for the two mountain localities because breeding bird data are generally scarce for the southern Appalachians.

Listed below are the parks censused, corresponding symbol on the map (Fig. 1), date of census, and compiler.

Aiken State Park (AK), 11 June, Jeannine Angerman
Cheraw State Park (CH), 4 June, Brian E. Cassie
Croft State Park (CR), 4 June, Pat Cart
Hickory Knob State Park (HK), 11 June, Vivian Smith
Hunting Island State Park (HI), 12 June, Charles Whitney
Huntington Beach State Park (HB), 4 June, Pat and Renee Probst
Kings Mountain State Park (KM), 11 June, Brian E. Cassie
Lynches River State Park (LR), 11 June, E. Calvin Clyde
Oconee State Park (OC), 4 June, Sidney Gauthreaux
Rivers Bridge State Park (RB), 11 June, Carroll Richard
Sadlers Creek State Park (SC), 4 June, Adair Tedards
Santee State Park (SA), 4 June, Jack and Lula Stewart
Sesquicentennial State Park (SQ), 11 June, Kay Sisson
Table Rock State Park (TR), 11 June, Paul Hamel

Pied-billed Grebe HB 5, AK 1; Anhinga RB 1; Mallard CR 4; Black Duck HB 4; Sharp-shinned Hawk HI 1, CH 1; Cooper's Hawk HB 1; Broad-winged Hawk CH 1, KM 2, CR 1; Purple Gallinule RB 1; Common Gallinule HB 15; American Coot HB 12; Piping Plover HB 1; Forster's Tern HI 1; Ground Dove HB 50; Barn Owl RB 1; Red-headed Woodpecker SA 1, LR 8, AK 2, SQ 4, CH 2, HK 1; Red-cockaded Woodpecker LR 6, CH 3; Eastern Phoebe SA 1; Solitary Vireo KM 2; Black-and-white Warbler AK 2; Swainson's Warbler AK 2, CH 1; Worm-eating Warbler KM 1; Ovenbird CH 1, KM 12; Louisiana Waterthrush RB 1, AK 5, CH 1, KM 5; Kentucky Warbler AK 5, CH 1, KM 8; Boat-tailed Grackle SA 30; Brown-headed Cowbird HB 8, HI 1, SA 3, AK 1, CH 3, HK 4, KM 4, SC 3, CR 18; Bachman's Sparrow LR 6.

Oconee and Table Rock State Parks: Green Heron 1/1, Turkey Vulture 0/18, Black Vulture 0/9, Cooper's Hawk 0/1, Red-tailed Hawk 1/0, Broad-winged Hawk 3/2, Bobwhite 5/4, Mourning Dove 2/5, Yellow-billed Cuckoo 7/25, Screech Owl 1/3, Barred Owl

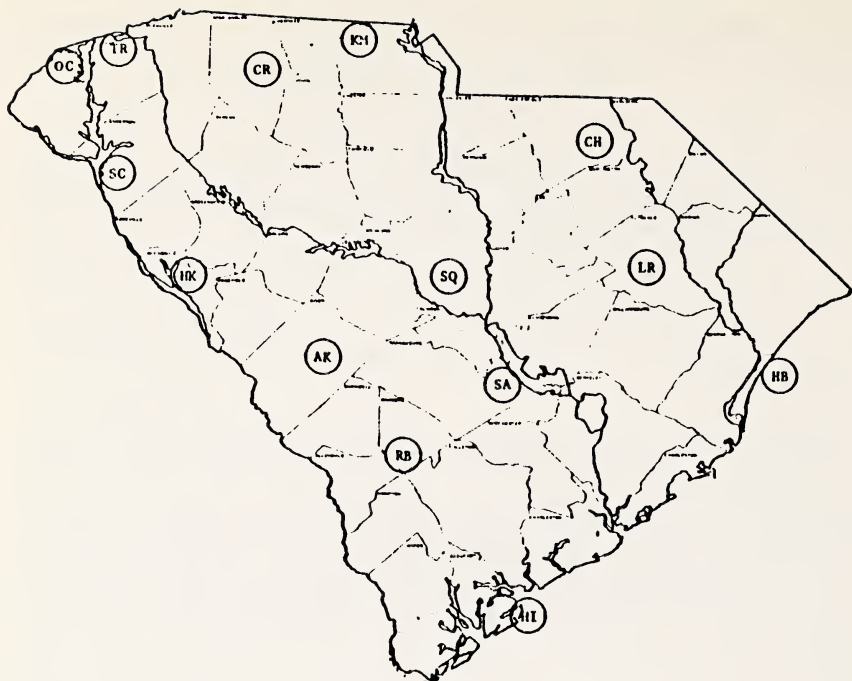


Fig. 1 Locations of South Carolina State Parks censused for breeding birds during June of 1977.

2/0, Whip-poor-will 6/5, Chimney Swift 4/12, Ruby-throated Hummingbird 8/4, Belted Kingfisher 0/1, Common Flicker 6/8, Pileated Woodpecker 19/20, Red-bellied Woodpecker 12/9, Hairy Woodpecker 8/7, Downy Woodpecker 11/18, Great Crested Flycatcher 33/13, Eastern Phoebe 3/17, Acadian Flycatcher 7/14, Eastern Wood Pewee 14/8, Tree Swallow 16/0 (probably late transients), Rough-winged Swallow 0/6, Barn Swallow 0/3, Purple Martin 1/0, Blue Jay 29/27, Common Raven 0/4, Common Crow 38/51, Carolina Chickadee 28/45, Tufted Titmouse 48/30, White-breasted Nuthatch 35/8, Brown-headed Nuthatch 3/1, House Wren 0/1, Carolina Wren 12/23, Mockingbird 0/0, Gray Catbird 4/11, Brown Thrasher 6/9, American Robin 3/4, Wood Thrush 16/35, Eastern Bluebird 0/2, Blue-gray Gnatcatcher 4/19, Starling 0/2, White-eyed Vireo 0/3, Yellow-throated Vireo 2/0, Solitary Vireo 12/7, Red-eyed Vireo 51/55, Black-and-white Warbler 15/4, Swainson's Warbler 0/1, Worm-eating Warbler 8/2, Northern Parula 2/4, Black-throated Green Warbler 0/4, Yellow-throated Warbler 4/3, Pine Warbler 18/18, Prairie Warbler 1/1, Ovenbird 72/34, Louisiana Waterthrush 0/1, Common Yellowthroat 0/3, Yellow-breasted Chat 2/1, Hooded Warbler 7/19, Eastern Meadowlark 0/5, Red-winged Blackbird 0/3, Common Grackle 7/21, Brown-headed Cowbird 5/1, Scarlet Tanager 25/10, Summer Tanager 3/7, Cardinal 23/30, Blue Grosbeak 0/3, Indigo Bunting 5/6, American Goldfinch 1/6, Rufous-sided Towhee 2/12, Chipping Sparrow 4/2, Field Sparrow 1/2, Song Sparrow 0/1.

AVERY COUNTY, N.C.

Brown Creeper: During the 1977 breeding season a nest was located about 7 feet up on the side of a dead hemlock at the edge of the golf course.

Wood Thrush: A nest was located about 5 feet above ground in an upright crotch of a rhododendron in mixed woods at Grandfather Mountain. On 7 August 1974 it contained

two eggs; on 11 August it contained two young birds.

Cedar Waxwing: Young left a nest on 22 August 1976.

Black-throated Blue Warbler: A nest was found about 18 inches above ground in a rhododendron planted beside a house at the Grandfather Golf and Country Club, 3 miles N of Linville. Two young were found dead under the nest on 15 June 1977.

Chestnut-sided Warbler and Brown-headed Cowbird: In July of 1976 a single Brown-headed Cowbird fledged from a Chestnut-sided Warbler nest located in a raspberry thicket. The cowbird chick was attended by a single female warbler.

Song Sparrow: One nest contained three eggs on 30 June 1974 and four eggs on 1 July. The first egg pipped on 12 July, and three or four young were in the nest on 15 July. The nest was empty on 3 August.

—MARGERIE PLYMIRE, Box 306, Linville, N.C.

WILKES COUNTY, N.C.

Two Breeding Bird Survey routes cover portions of Wilkes County, N.C. One begins southeast of North Wilkesboro near Call and runs generally to the last stop at Absher, which is a little southeast of Doughton Park. The other begins in Surry County, but stops 41 through 50 lie just north of West Elkin in Wilkes County with the last stop being at Little Elkin Creek on SR 1931. The following species have been recorded along these routes in Wilkes County.

Green Heron, Turkey Vulture, Red-tailed Hawk, Broad-winged Hawk, Bobwhite, Killdeer, Rock Dove, Mourning Dove, Yellow-billed Cuckoo, Black-billed Cuckoo (single bird near West Elkin, 6 June 1971), Chimney Swift, Common Flicker, Pileated Woodpecker, Red-bellied Woodpecker, Eastern Kingbird, Great Crested Flycatcher, Eastern Phoebe, Acadian Flycatcher, Willow Flycatcher (one seen at intersection of NC 268 and Roaring River and heard calling "fitz-bew" on 18 June 1977), Eastern Wood Pewee, Bank Swallow (see General Field Notes in this issue), Rough-winged Swallow, Barn Swallow, Purple Martin, Blue Jay, Common Crow, Carolina Chickadee, Tufted Titmouse, House Wren, Carolina Wren, Mockingbird, Gray Catbird, Brown Thrasher,

American Robin, Wood Thrush, Eastern Bluebird, Blue-gray Gnatcatcher, Cedar Waxwing (recorded at two different stops in northern part of county, one on 18 June 1977 and two on 2 June 1978; also four birds near West Elkin on 31 May 1978), Starling, White-eyed Vireo, Yellow-throated Vireo, Red-eyed Vireo, Pine Warbler, Ovenbird, Common Yellowthroat, House Sparrow, Eastern Meadowlark, Red-winged Blackbird, Orchard Oriole, Northern Oriole (singing males in central Wilkes County, one on 18 June 1977 and another on 2 June 1978), Common Grackle, Brown-headed Cowbird, Summer Tanager, Cardinal, Blue Grosbeak, Indigo Bunting, American Goldfinch, Rufous-sided Towhee, Chipping Sparrow, Field Sparrow, Song Sparrow.—RAMONA SNAVELY, 115 Plymouth Avenue, Winston-Salem, N.C.

SURRY COUNTY, N.C.

The following list of birds that nest in Surry County, N.C., is based on 8 years of Breeding Bird Survey data plus additional sightings including many from Pilot Mountain State Park. The BBS route begins southeast of Copeland and runs westward near the southern boundary of the county, which is formed by the Yadkin River. The route enters Wilkes County just west of Elkin Valley.

Green Heron, Turkey Vulture, Black Vulture, Red-tailed Hawk, Broad-winged Hawk, Bobwhite, Rock Dove, Mourning Dove, Yellow-billed Cuckoo, Black-billed Cuckoo (single bird seen and heard calling 31 May 1970 at Stop 4; single birds 6 June 1971 at Stops 4, 5, and 21; one bird at Stop 4 on 28 May 1972; one bird at Stop 7 on 1 June 1975), Whip-poor-will, Chimney Swift, Ruby-throated Hummingbird, Belted Kingfisher, Common Flicker, Red-bellied Woodpecker, Hairy Woodpecker, Downy Woodpecker, Eastern Kingbird, Great Crested Flycatcher, Eastern Phoebe, Acadian Flycatcher, Eastern Wood Pewee, Rough-winged Swallow, Barn Swallow, Purple Martin, Blue Jay, Common Raven (nests at Pilot Mountain), Common Crow, Carolina Chickadee, Tufted

Titmouse, White-breasted Nuthatch, Brown-headed Nuthatch, House Wren, Carolina Wren, Mockingbird, Gray Catbird, Brown Thrasher,

American Robin, Wood Thrush, Eastern Bluebird, Blue-gray Gnatcatcher, Cedar Waxwing (two at Stop 6 and five at Stop 27 on 31 May 1970; two at Stop 27 on 6 June 1971; four at Stop 14, three at Stop 27, and four at Stop 39 on 28 May 1972; six at Stop 28 and five at Stop 37 on 1 June 1973), Loggerhead Shrike, Starling, White-eyed Vireo, Yellow-throated Vireo, Red-eyed Vireo, Black-and-white Warbler, Prothonotary Warbler, Northern Parula, Yellow Warbler, Pine Warbler, Prairie Warbler, Ovenbird, Common Yellowthroat, Yellow-breasted Chat, Hooded Warbler, House Sparrow,

Eastern Meadowlark, Red-winged Blackbird, Orchard Oriole, Northern Oriole (one singing male at Stop 3 on 31 May 1970, at Stop 37 on 6 June 1971, and at Stop 37 on 1 June 1975), Common Grackle, Brown-headed Cowbird, Scarlet Tanager, Cardinal, Blue Grosbeak, Indigo Bunting, American Goldfinch, Rufous-sided Towhee, Grasshopper Sparrow, Chipping Sparrow, Field Sparrow, Song Sparrow.—RAMONA SNAVELY, 115 Plymouth Avenue, Winston-Salem, N.C. 27104

FORSYTH COUNTY, N.C.

Documented nesting records are available from Forsyth County, N.C., for all the species appearing in the list below. Three additional species are often present here during the breeding season, but no positive evidence of nesting has yet been found. These three are the American Kestrel, the Black-billed Cuckoo, and the Willow Flycatcher.

Canada Goose, Mallard, Wood Duck, Turkey Vulture, Black Vulture, Red-tailed Hawk, Red-shouldered Hawk, Broad-winged Hawk, Bobwhite, Killdeer, American Woodcock, Rock Dove, Mourning Dove, Ringed Turtle Dove, Yellow-billed Cuckoo, Barn Owl, Screech Owl, Great Horned Owl, Barred Owl, Chuck-will's-widow, Whip-poor-will, Common Nighthawk, Chimney Swift, Ruby-throated Hummingbird, Belted Kingfisher, Common Flicker, Pileated Woodpecker, Red-bellied Woodpecker, Red-headed Woodpecker, Hairy Woodpecker, Downy Woodpecker, Eastern Kingbird, Great Crested Flycatcher, Eastern Phoebe, Acadian Flycatcher, Eastern Wood Pewee, Horned Lark, Rough-winged Swallow, Barn Swallow, Purple Martin, Blue Jay, Common Crow, Carolina Chickadee, Tufted Titmouse, White-breasted Nuthatch, Brown-headed Nuthatch, House Wren, Bewick's Wren (Chat 14:67), Carolina Wren, Mockingbird, Gray Catbird, Brown Thrasher,

American Robin, Wood Thrush, Eastern Bluebird, Blue-gray Gnatcatcher, Cedar Waxwing (first record, two adults feeding four fledglings at Salem Lake 14 July 1971; second record, two adults feeding two nestlings at Salem Lake 8 July 1977; adults fairly common during summers of 1975 through 1977), Loggerhead Shrike, Starling, White-eyed Vireo, Yellow-throated Vireo, Solitary Vireo, Red-eyed Vireo, Prothonotary Warbler, Northern Parula, Yellow Warbler, Yellow-throated Warbler, Pine Warbler, Prairie Warbler, Ovenbird, Louisiana Waterthrush, Kentucky Warbler, Common Yellowthroat, Yellow-breasted Chat, Hooded Warbler, American Redstart, House Sparrow,

Eastern Meadowlark, Red-winged Blackbird, Orchard Oriole, Northern Oriole (first record, adults feeding young in nest 4 June 1972; second record, adults feeding young in nest 11 April 1974; nests found 5 June 1975 and 19 May 1976), Common Grackle, Brown-headed Cowbird, Scarlet Tanager, Summer Tanager, Cardinal, Blue Grosbeak, Indigo Bunting, House Finch (see below), American Goldfinch, Rufous-sided Towhee, Grasshopper Sparrow, Chipping Sparrow, Field Sparrow, Song Sparrow.

House Finch. A pair was seen in courtship display on 19 June 1974 and for about the next 10 days. A pair was present on 21 and 23 June 1975. In the summer of 1976, a pair remained near a bird feeder, and on 12 July the adult male and one fledgling came to the feeder. The next day the male and two fledglings were seen. On 11 July 1977 two adults were feeding three young at the same location, and House Finches were at feeders all summer.

On 20 May 1978 male House Finches were seen and heard singing. A thorough investigation revealed a nesting colony in Salem Cemetery. At least four pairs were present in addition to 12 singing males. Courtship, copulation, nest building, feeding of young, and

cowbird parasitism were noted. Four additional pairs were located in other sections of town during June of 1978, and all pairs had young with them.—RAMONA SNAVELY, 115 Plymouth Avenue, Winston-Salem, N.C. 27104

[The following species were accidentally omitted from the list of birds known to have bred in Forsyth County: Green Heron and Dickcissel (Chat 19:68-69).—EFP]

FORT BRAGG MILITARY RESERVATION, N.C.

I was stationed at Fort Bragg, N.C., between 20 June and 28 July 1971. During this period I was in the field most of the time. Except for 5 days when I was absent, I kept daily lists of the numbers of each species of bird that I saw or heard; usually these lists were prepared from memory when I could find a few moments to write. This paper is a summary of those 34 daily bird lists.

The data for each species are presented in the form of a fraction. The numerator of the fraction is the number of days on which that particular species was recorded; the denominator is the total number of birds of that species recorded during the summer. For example, I recorded Brown-headed Nuthatches on 18 different days and a total of 110 during the summer (18/110), or an average of about six birds every other day. For a few unusual species or those recorded only once, I have given complete data on the number of individuals and the dates on which they were seen.

The data actually provide information on the relative conspicuousness of the birds, rather than on their abundance. Using the nuthatch as an example again, these birds were the second most frequently encountered species. These noisy birds often came around our bivouac sites at dawn where they were quite conspicuous. Actually they were probably less common than some other species that were more retiring or quieter.

This is obviously not a complete list of the summer birds of the Fort Bragg area. My stay was rather brief, and many birds had stopped singing by the time I arrived. Furthermore, conditions during military exercises were often less than optimum for observing birds. I rarely carried binoculars. Also, there was little variation in the habitat that I visited—mostly dry pine woods, but occasionally mixed woods, or more rarely deciduous woods. A few times I visited small lakes. I was surprised not to find any raptors. Even though I was afield often during all hours of the night, no owls were heard. Equally surprising was the absence of Carolina Chickadees and Carolina Wrens. All of the birds were probably breeding, except the Little Blue Herons, Spotted Sandpipers, and Black Terns. The following 50 species were recorded:

Green Heron:4/12. Little Blue Heron:4 on 27 July. Bobwhite:14/36. Killdeer:4/13. American Woodcock:1 on 25 June. Spotted Sandpiper:2 on 25 July, and 1 on 28 July. Black Tern:4 on 27 July. Mourning Dove:18/94. Yellow-billed Cuckoo:1 on 28 July. Chuck-will's-widow:12/37. Whip-poor-will:6/12. Common Nighthawk:15/68. Chimney Swift:6/31. Belted Kingfisher:2/4. Common Flicker:4/10. Red-headed Woodpecker:11/4. Downy Woodpecker: 2 on 23 June. Red-cockaded Woodpecker:3 on 25 June, 1 on 28 June near a nest hole in a live pine, 3 on 23 July.

Eastern Kingbird:21/68. Great Crested Flycatcher:9/17. Acadian Flycatcher:3/16. Rough-winged Swallow:1 on 21 June. Purple Martin:7/19. Blue Jay:9/30. Common Crow:12/66. Tufted Titmouse:1 on 23 June. Brown-headed Nuthatch:18/110. Mockingbird:15/63. Gray Catbird:4/7. Brown Thrasher:3/5. American Robin:8/22. Wood Thrush:10/21. Eastern Bluebird:3/7. Loggerhead Shrike:5/10. Starling:3/8.

White-eyed Vireo:2 on 19 July. Red-eyed Vireo:3/4. Pine Warbler:5/8. Common Yellowthroat:6/7. House Sparrow:13/36. Eastern Meadowlark:3/5. Red-winged Blackbird:5/11. Common Grackle:7/141. Summer Tanager:5/7. Cardinal:5/14 (28 July, nest with three 2-day-old young). Blue Grosbeak: 3/4. Indigo Bunting:1 on 23 July. Rufous-sided Towhee:11/32. Chipping Sparrow:3/3. Field Sparrow:5/8.—MORRIS D. WILLIAMS, Museum of Zoology, Louisiana State University, Baton Rouge, La. 70803

JOHNSTON COUNTY, N.C.

The following species have been recorded in Johnston County, N.C., during June or under circumstances that indicate local breeding. Unless otherwise stated, the birds were seen or heard calling during Breeding Bird Surveys made from 1966 through 1975 or in 1977.

Green Heron, American Kestrel, Bobwhite, King Rail (adult with chick, Jack Potter, pers. com.), Killdeer, American Woodcock, Rock Dove, Mourning Dove, Yellow-billed Cuckoo, Chuck-will's-widow, Whip-poor-will, Chimney Swift, Ruby-throated Hummingbird, Yellow-shafted Flicker, Pileated Woodpecker (permanent resident along Little River), Red-bellied Woodpecker, Hairy Woodpecker, Downy Woodpecker, Eastern Kingbird, Great Crested Flycatcher, Eastern Phoebe, Acadian Flycatcher (25 June 1975), Eastern Wood Pewee, Barn Swallow (Chat 30:19 plus sightings along I-95 at Smithfield in June of 1977 and 1978), Purple Martin, Blue Jay, Common Crow, Fish Crow (14 June 1977), Carolina Chickadee, Tufted Titmouse, Brown-headed Nuthatch, Carolina Wren, Mockingbird, Gray Catbird, Brown Thrasher,

American Robin, Wood Thrush, Blue-gray Gnatcatcher (numerous breeding season sightings along Little River), Loggerhead Shrike, Starling, White-eyed Vireo, Yellow-throated Vireo (25 June 1975), Red-eyed Vireo, Prothonotary Warbler (25 June 1975), Northern Parula (numerous breeding season sightings along Little River), Yellow Warbler (single singing male 1966 BBS), Pine Warbler, Prairie Warbler, Ovenbird, Louisiana Waterthrush (25 June 1975), Common Yellowthroat, Yellow-breasted Chat, Hooded Warbler (adults feeding young out of nest, 25 June 1975), American Redstart (25 June 1975), House Sparrow,

Eastern Meadowlark, Red-winged Blackbird, Orchard Oriole, Common Grackle, Scarlet Tanager (two singing males in an open grove of trees, 25 June 1975), Summer Tanager, Cardinal, Blue Grosbeak (feeding young, 25 June 1975), Indigo Bunting, American Goldfinch, Rufous-sided Towhee, Chipping Sparrow, Field Sparrow.—ELOISE F. POTTER, Route 3, Box 114 AA, Zebulon, N.C. 27597

WASHINGTON COUNTY, N.C.

The following species were found at Pettigrew State Park or along the road to Creswell. Dates of the visits were 21 June 1977 and 15 June 1978. Turkey Vulture, Bobwhite, Mourning Dove, Yellow-billed Cuckoo, Barn Owl (one found dead in road 21 June 1977), Yellow-shafted Flicker, Pileated Woodpecker, Red-bellied Woodpecker, Great Crested Flycatcher, Eastern Wood Pewee (mating on the wing, 21 June 1977), Rough-winged Swallow (one sitting on wire 15 June 1978), Blue Jay, Common Crow, Fish Crow, Carolina Chickadee, Carolina Wren, Mockingbird, American Robin, Wood Thrush, Starling, Red-eyed Vireo, Prothonotary Warbler, Common Yellowthroat, House Sparrow, Eastern Meadowlark, Red-winged Blackbird, Orchard Oriole, Common Grackle, Summer Tanager, Cardinal, Indigo Bunting, Rufous-sided Towhee.—ELOISE F. POTTER, Route 3, Box 114 AA, Zebulon, N.C. 27597



Roundtable

... with Louis C. Fink

Late Nesting in Bluebirds

How late in summer will the Eastern Bluebird nest? I've not researched the problem but was nonetheless surprised to find that three of six houses under my care contained clutches on 19 July 1978. Nesting was a little later than usual in 1978. Usually I can expect eggs as early as mid-April, but little nesting seems to have been started sooner than 1 May. Nonetheless, on 19 July one of boxes contained three nests built in successive layers virtually to the level of the entrance hole. Thus at least one of the houses was likely fostering a third brood. Seven subadults were observed in the area, one group of three accompanying a pair that had begun to brood a new clutch.

The first 2 weeks in July at Raleigh were hot and dry. About 6 days before the three clutches were observed saw abundant rainfall and lower temperatures. Do bluebirds synchronize summer breeding with availability of moisture, which might be expected to generate increased food supply? Or do they respond to the moderate temperatures that usually follow rains? I've noted that the young of the Purple Martin run the risk of starvation during hot dry periods, presumably from the suppression of diurnal insect populations. Have others made observations on the breeding of bluebirds in mid and late summer?—JOSHUA A. LEE, 5104 Newcastle Road, Raleigh, N.C. 27606

What's Going on Here?

A little before 4 o'clock on the afternoon of 31 July 1978, I watched a Chipping Sparrow bathing at the edge of my fish pool. The bird flew to a perch, preened, and then moved to another perch where it sat perfectly still for a little while. Suddenly another Chipping Sparrow dived upon the perched bird, and the two tumbled to the ground. After a brief struggle, the dominant bird strutted away. Its crown feathers were erect, its breast was puffed out, and its wings were drooped. The other bird remained crouched on the ground at least 5 minutes, occasionally turning its head. Finally it took a few steps and flew to a perch. Almost immediately the dominant bird chased it out of sight. What were these Chippies doing? Did I see a family feud? Or late summer courtship antics? Does anyone have information on this kind of behavior?—ELOISE F. POTTER, Route 3, Box 114 AA, Zebulon, N.C. 27597

More on Identification of Avocet Chicks

Gilbert S. Grant of the Department of Biology, University of California at Los Angeles, offers additional information on the identification of American Avocet chicks in response to the note by William McVaugh Jr. (Chat 42:31-32). According to Grant, two very obvious features distinguishing stilt and avocet chicks are (1) that stilts have three toes while avocets have four (hind toe is rudimentary), and (2) that stilts have almost no webbing between the toes while avocets have extensive webbing. Grant further comments that the bird shown in McVaugh's excellent photograph is obviously an avocet "as you can see both the webbing and the hind toe in addition to the characters he mentions."

When Can We See Birds?

There are many members of the Carolina Bird Club who—for varied and valid reasons—cannot go on rigorous Christmas Counts or Spring Counts, or take exotic trips to the mountains or the offshore waters. But everybody can note the birds at his own backyard feeder. If you are willing to be a careful observer and record your observations, you can increase your own life list and add to the knowledge of birds in the Carolinas.

Here's a list of some (not all) of the small birds that spend the winter with us. How early do they arrive? How late do they stay? Your feeding station is one of the best places to answer the questions. Make a careful note of dates. We'll give you credit in this column if you extend any of the dates. A good place to write your observations is the "Checklist of North Carolina Birds," available for a dollar from CBC Headquarters, P.O. Box 1220, Tryon, N.C. 28782.

	Earliest Arrival	Latest Departure
Red-breasted Nuthatch (outside mountains)	25 August	18 May
Brown Creeper (outside mountains)	7 September	20 May
Winter Wren (outside mountains)	23 September	3 May
Short-billed Marsh Wren	10 August	17 May
Hermit Thrush	12 October	28 May
Golden-crowned Kinglet (outside mountains)	7 October	27 April
Ruby-crowned Kinglet	19 August	7 May
Water Pipit	25 August	23 May
Orange-crowned Warbler	5 October	19 May
Yellow-rumped (Myrtle) Warbler	28 August	1 June
Palm Warbler	25 September	10 May
Yellow-headed Blackbird	3 August	9 April
Rusty Blackbird	6 October	16 June
Brewer's Blackbird	19 October	7 May
Evening Grosbeak (outside mountains)	23 September	24 May
Purple Finch (outside mountains)	7 August	1 June
Pine Grosbeak	29 December	30 May
Common Redpoll	19 October	5 April
Pine Siskin (outside mountains)	23 October	24 June
White-winged Crossbill	17 December	28 February
Savannah Sparrow	3 August	26 May
Sharp-tailed Sparrow	1 October	27 May
Dark-eyed Junco (outside mountains)	19 September	30 May
Tree Sparrow	24 November	8 May
Fox Sparrow	26 October	18 May
Lincoln's Sparrow	12 September	14 May
Lapland Longspur	5 October	16 March
Snow Bunting	23 October	29 April

Note: These records are for North Carolina. We urge our readers and members in South Carolina to send in dates for that State.

Bird Watcher's Digest

Every now and then I receive a complaint that *Chat* is "too scientific" or "too professional." While I take this as a well deserved compliment to the many amateurs who contribute clear and concise papers and notes to our pages, I can sympathize with the dissatisfied readers. *Chat* does not have a large enough proportion of popular material. Judging from my own struggles at the typewriter, I'd say that a first-rate informal nature essay requires more effort than a purely scientific paper of comparable length. That's why much "nature writing" is anything but first-rate, and that's why *Chat* receives precious little or it, whatever the quality.

Now the bird watcher who enjoys informal essays about nature in general and

birds in particular has a magazine all his own. It is *Bird Watcher's Digest*. Edited by William M. Sheppard, the first issue appeared in September of 1978. Subscriptions to the bi-monthly are available at \$7.50 per year (\$9.00 outside U.S. and territories) from P.O. Box 110, Marietta, Ohio 45750.

The first issue contains 32 short articles reprinted from newspapers and magazines all across the country. Regardless of the quality of the research and the writing, all the pieces radiate enthusiasm for the subject. One of the better contributions is by John Parrish of the Asheville *Citizen-Times*. Titled "Great Smokies Paradise for Bird Watchers," it is essentially an interview with Arthur Stupka, an expert on the birds of the Smokies and an articulate gentleman to boot. An article on bird banding reprinted from *Carnegie Magazine* offers a good introduction to the subject, but experienced bird watchers will find little really new to them. This piece does contain the interesting statement that a Red-eyed Vireo that left the Carnegie Museum's Powdermill Reserve banding station in Pennsylvania one September evening in 1974 was found the next morning near Raleigh, N.C., where it had struck a TV tower.

Skimming the September issue, I did not notice any of the dreadful typographical errors, misleading statements and anthropomorphism that seem to mar most newspaper stories about birds and other aspects of natural history. Apparently the editorial staff chose the articles with an eye for accuracy as well as for the catchy lead paragraph. The publishers state that more than 2,700 articles were reviewed in selecting those for the first issue. Whether the quality can be maintained for six issues per year, year after year, is anybody's guess. I believe there is a broad readership for first-rate popular but factual stories about birds. Perhaps the very existence of *Bird Watcher's Digest* will stimulate newspaper editors to recruit capable nature writers who will, in turn, provide fresh material for the digest. Such a happy coincidence would be a boon to bird clubs all across the land.—EFP

Harry Towles Davis
1897-1978

Harry Towles Davis, director of the North Carolina State Museum of Natural History from 1937 to 1966, died at Sea Level, N.C., on 6 September 1978. Davis came to the museum in 1920 as curator of geology, but his interests spanned all fields of natural history. A charter member of Carolina Bird Club, Davis served as president of the organization and edited the Newsletter for many years. Many of the young naturalists he encouraged have made outstanding contributions to science, and several now serve on the staff of the institution he once headed.—EFP

General Field Notes

JAMES F. PARNELL, Department Editor

Department of Biology, University of North Carolina at Wilmington,
Wilmington, N.C. 28401

JULIAN R. HARRISON, Associate Editor

Department of Biology, The College of Charleston, Charleston, S.C. 29401

Blue Goose Banded on Bermuda, Recovered at Cape Hatteras, N.C.

DAVID B. WINGATE

Conservation Officer

Department of Agriculture & Fisheries

Paget, Bermuda

Accepted March 1975

Snow Geese (*Chen caerulescens*) are occasional fall vagrants to Bermuda. A summary of the records up to 1972, including a banding recovery of five Greater Snow Geese (*C. c. atlantica*) from N.W. Baffin Island, has been published in *Bird-Banding* (45:217-223, 1974).

The bird reported on here was a typical blue-phase Snow Goose in adult plumage. It turned up on Bermuda on or about 1 December 1973. Like most of our goose vagrants, it was exhausted and remarkably tame and confiding. Indeed, it took up residence with some domestic Mallards on the lawn of a Bermuda luxury home at Fairylands Creek, Pembroke. When I first saw the bird, it was standing on the top of the porch awaiting a daily handout of duck food from the lady of the house. Not content with duck food alone, however, it soon became a nuisance by tearing up the flower beds!

When the homeowner began to complain, I decided to capture the bird and transfer it to a local waterfowl refuge known as Spittal Pond in Smith's Parish. This was achieved by the use of a mist net on 13 December. The bird was banded with F & W service band No. 597-84353 and released at Spittal Pond on the following day. Its weight was 5 pounds, total length 27 inches, wing chord 15.5 inches.

The Blue Goose remained on the refuge feeding in a wild state at a nearby cattle pasture until the morning of 2 January 1974, when it was last reported and photographed by Keith Pellow, a local birder.

Early in June, I received a report from the Bird Banding Office that the goose had been recovered in company with domestic Mallards at a farm pond near Avon, N.C., on the outermost tip of Cape Hatteras. Although the date was not specified, it was sometime within the first 10 days of January 1974. Two things are remarkable about this recovery. First, Cape Hatteras is the nearest point of land on the North American continent (580 miles W-NW of Bermuda). Second, the bird must have reached it fairly directly, suggesting a deliberate correcting or reorientation flight in the general direction of the species' normal wintering grounds.

The person who recovered the bird was reported by the Bird Banding Office as Mr. C. Williams III of Box 14, Avon, N.C. Although I have written him requesting further information, I have failed to receive any reply. Specific questions that still need answering are the exact date of recovery and the manner of recovery, i.e. whether the bird was collected, captured exhausted, or allowed to recover and continue its journey inland.

[NOTE: Further follow-up has failed to produce additional information on the recapture.—JFP]

White Ibis near Rosman, N.C.

GERALD C. McNABB JR.
5 Graystone Road
Asheville, N.C. 28804

23 September 1977

On 21 August 1977 I was leading a canoe trip down the French Broad River from Rosman to US 276 at Brevard, Transylvania County, N.C. We had been on the river about an hour and had already spotted several Green Herons and Belted Kingfishers when we saw an immature White Ibis (*Eudocimus albus*) on the north bank of the river at a distance of about 15 meters. It was perched about 3 meters off the ground in a dead snag. Even without binoculars, the profile was unmistakable. The long decurved bill, the dark brown body showing a clear separation with the lighter neck, and the large size (about 45 cm high) were clearly visible. The bird did not fly at seeing us and seemed unusually unconcerned about our presence. I watched the bird for over a minute while I stopped paddling and let the river current take us by. Several other canoeists saw the bird, but none were familiar enough with birds to give it a name. The river level was lower than normal as a result of the dry summer.

[NOTE: See related article below.—JFP]

White Ibis in Transylvania County, N.C.

ERCEL FRANCIS
Sherwood Forest
Cedar Mountain, N.C. 28718

9 September 1978

On 3 August 1978 an immature White Ibis (*Eudocimus albus*) was discovered by George Letchworth at Cedar Mountain in Transylvania County, N.C. The bird was first observed on a golf course at an elevation of about 2800 feet. The bird was seen by numerous people until 15 August. Photographs were secured by Mabel Boulet. Studied closely on several occasions, the bird had a long, faintly pink, decurved bill, a gray neck, white underparts and rump, and a dark humped body.

[NOTE: Observations of immature White Ibis are increasing in the North Carolina mountains. This apparently relates to the increasing success of the breeding colonies at Battery Island in southeastern North Carolina and at various places in coastal South Carolina. A continued increase in the number of White Ibis that wander inland in late summer can be expected as long as the coastal colonies thrive.—JFP]

Harlequin Duck on Bull's Island, S.C.

BOB AND LISA LEWIS
308 E. Creswell Avenue
Greenwood, S.C. 29646

30 August 1977

On 6 March 1977 we observed an immature male Harlequin Duck (*Histrionicus histrionicus*) within a few feet of the shore along the north beach of Bull's Island, Charleston County, S.C. We were so close to the bird that its body more than filled the field of view at 80X on our telescope. We observed the bird for about 10 minutes. This occurred in the afternoon, under heavily overcast skies.

The bird appeared to be in molt. The head showed all the requisite stripes and patches, but they seemed indistinct, or perhaps worn. An exception to this was the white ear patch, which had very precise borders. Two chestnut patches were prominently displayed in the crown stripes. On the body, the large vertical white stripe on the side was present, as was the horizontal white stripe leading from the bend-of-wing area around to the front of the breast. The long white scapular stripe of the adult male plumage was not visible, however, nor was the chestnut-colored flank patch. Instead, these last two regions, along with the back and mantle, appeared black. These plumage characteristics are con-

sistent with the description in Roberts' *Birds of Minnesota* of the first-winter male plumage.

There are only four published records of the Harlequin Duck in South Carolina. This species was first noted in the state by Arthur T. Wayne (South Carolina Bird Life, 1970, p. 139; Auk 35:437) who observed a total of six birds (all females or immature males) at Porcher's Bluff near Mt. Pleasant on 14 and 16 January 1917. *South Carolina Bird Life* also mentions two males and a female sighted in the Cape Romain Refuge on 1 February 1936. More recently, a male and a female were seen near McClellanville on 21 December 1975 (Chat 40:2), and four birds (sexes not given) were discovered at Lake Hartwell near Madison on 8 March 1977 (Chat 41:98).

[NOTE: On 27 December 1976 Paul Gurn and several members of the Mattatuck Community College (Connecticut) Natural History Club observed an immature male Harlequin Duck at the northeastern end of Bull's Island. This previously unpublished record may represent the same bird reported above.—JRH]

A Record of the Hudsonian Godwit in South Carolina and a Comparison with the Black-tailed Godwit

BOB LEWIS

308 E. Creswell Avenue
Greenwood, S.C. 29646

22 February 1978

In the afternoon of 4 September 1977, my wife Lisa and I were birding along the north beach of Huntington Beach State Park, Georgetown County, South Carolina. We had been seeing the expected species of shorebirds when one of us spotted a pair of larger birds about 100 yards away. We studied them for the next 10 minutes through our 80X telescope.

The birds resembled Marbled Godwits (*Limosa fedoa*) in general morphology: long legs, upright posture, and a long, two-toned recurved bill. However, the bills were shorter in proportion to the body than in the Marbled Godwit, and were decidedly curved throughout their length. The plumage of the breast, belly, and flanks was pure white on both birds, except that one bird had three small, faded, reddish patches on its breast and belly. No "marbling" effect was visible. Also, these birds were slimmer and perhaps a bit smaller than Marbled Godwits. We immediately suspected they were Hudsonian Godwits (*L. haemastica*), a species we are familiar with in New York.

We approached in order to flush the birds, and observed the black and white tail pattern. Unfortunately, we did not observe the black axillars because of the angle the birds presented as they flew away. Also, the light was merely adequate because of a heavy overcast. However, we did note a thin, indistinct wing stripe on both birds. They flew north across Murrell's Inlet and did not return.

There are but three published records of the Hudsonian Godwit in South Carolina. A single bird, observed carefully by E. von S. Dingle near Charleston in early May of 1941, was regarded by Sprunt and Chamberlain (South Carolina Bird Life, 1970, p. 251) as the first definite record for the state. In the Supplement to the latter source (op. cit., p. 640-641), Burton places the species on the hypothetical list and gives a second record, an amazing 49 birds observed by the Tedards at Hunting Island, Beaufort County, on 1 September 1961 (Chat 26:41). This flock was associated with a large concentration of shorebirds, including several Marbled Godwits. The third record is represented by a single individual seen by Perry Nugent at Moore's Landing, Charleston County, on 25 February 1973 (Chat 37:53); no details are provided. In Georgia, there are records of this species from Little St. Simons Island (Oriole 33:18) and Sapelo Island (American Birds 27:602; Oriole 38:1-5). In recent years a few have been seen each fall on the Outer Banks of North Carolina (Chat 40:49; 41:54).

Because we did not see the black axillars, the possibility that the birds were Black-tailed Godwits (*L. limosa*) must be considered. This species breeds in the Palearctic and

winters in India, Southeast Asia, Australia, and around the perimeter of the Mediterranean (Peterson, Mountfort, and Hollman, 1954, *A Field Guide to the Birds of Britain and Europe*; Ali and Ripley, 1969, *Handbook of Birds of India and Pakistan*, Vol. 2). There are two recognized subspecies, but they are indistinguishable in the field (Ali and Ripley, op. cit.). In North America, the species is known only from Newfoundland and Massachusetts (Auk 85:500). In winter plumage, this godwit closely resembles the Hudsonian. The axillars provide the best distinguishing feature: they are black in the Hudsonian and white in the Black-tailed. However, two other field marks can be used to separate the two species. In the Black-tailed, the white wing stripe is more prominent than that of the Hudsonian, and the bill is "always straight" (Hall, 1960, *A Gathering of Shorebirds*; Slater, 1970, *A Field Guide to Australian Birds*; and MacDonald, 1973, *Birds of Australia*). According to Slater, "... the white upperwingbar of the Hudsonian is much less distinct [than in the Black-tailed] or almost lacking."

When these two field marks are considered, there appears to be little doubt that the birds at Huntington Beach were Hudsonians. However, birders should be aware of the possibility of the occurrence of the Black-tailed Godwit in the Carolinas. This is especially applicable to wintering birds, for the Black-tailed winters in part at latitudes comparable to ours, while the Hudsonian winters in South America.

Bank Swallows Nesting in North Carolina

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15 July 1978

On 18 June 1977, while conducting a Breeding Bird Survey in Wilkes County, N.C., we saw Bank Swallows (*Riparia riparia*) near the town of Roaring River, approximately 13 km (8 miles) NE of North Wilkesboro (Am. Birds 31:1127). They were located along the western bank of the Roaring River, immediately upstream of the river's intersection with NC 268. Eight individuals were seen at that time. After completing the Survey, we returned to the area and watched the swallows for about an hour. They were flying and feeding in the company of approximately 40 nesting Rough-winged Swallows (*Stelgidopteryx ruficollis*) and numerous Barn Swallows (*Hirundo rustico*). We saw several Bank Swallows fly into burrows, and some birds rested at the entrances of the holes. We returned to the colony in early July of 1977 and found the swallows still active.

On 31 May 1978 we again checked the area and found 12 individuals, four more than the number observed in 1977. The Bank Swallows were again seen entering burrows and resting at the entrances. There appeared to be a decrease in the number of Rough-winged Swallows; only about 15 individuals were seen at this time.

On 2 June 1978 another Breeding Bird Survey was made and two Bank Swallows were noted during the 3-minute count. After the Survey, we returned to the site, at which time one Bank Swallow was observed throwing dirt from a burrow. Photographs were taken of the site, noting that eight burrows were known to be used by the Bank Swallows.

On 18 June 1978 the birds were still in the area, actively feeding and flying into the burrows. During a visit on 26 June, on several occasions it was noted that a bird would wait at the entrance of an excavation until a second bird emerged, whereupon the first bird would then enter. This behavior suggested that the adult birds were feeding their young. On this visit, it was also observed that only three or four Rough-winged Swallows were flying, and none were seen at any of the burrows. However, there was a considerable increase in Bank Swallows, with an estimate of 20 active burrows used by approximately 50 Bank Swallows.

On 14 July 1978 we found the first young birds of this nesting colony. Four fledglings were seen at burrow entrances with two young occupying one of the burrows. While we watched the fledglings, adult Bank Swallows came on numerous occasions and fed the young birds. The yellow gape and down feathers were very much in evidence. As the sand



Fig. 1. Entrances to nest burrows can be seen in the embankment of the Roaring River in Wilkes County, N.C., where Bank Swallows nested in 1977 and 1978.

shifted out of one entrance hole, a fledgling lost its balance and had to make an unexpected maiden flight. After briefly fluttering in the air, the young Bank Swallow safely returned to the adjoining nesting burrow.

The A.O.U. *Check-list* (1957, p. 359) does not have any mention of Bank Swallows nesting in North Carolina, and the species is listed as a rare transient in *Birds of North Carolina* (1959, p. 248). However, a well-documented record by A.L. Pickens (Chat 18:53-54) states that T.M. Craig, an ornithology student at the University of South Carolina, found Bank Swallows nesting in the summer of 1926 near Tuxedo, N.C., approximately 6.5 km (4 miles) N of the South Carolina line in the Appalachian Region. Tuxedo is a community on Lake Summit in Henderson County. Apparently the colony found by Craig remained active at least until the late 1940s when Donald J. Nicholson (Chat 15:39-41) found Bank Swallows near Lake Summit. Interestingly, he does not report the presence of Rough-winged Swallows.

Bank Swallows habitually locate on the sheer faces of banks, which are typically composed of glacial sand and gravel deposits. This unique habitat is essentially duplicated at the aforementioned Roaring River site (Fig. 1). This situation occurred following the removal several years ago of all vegetation along a 200-meter (660-foot) strip of river bank. This denuded area occupied the downstream terminus of a river bend; erosion and subsequent alluvial deposits altered the geological character of the river bank and created the stratified sequence.

The apparent gradual displacement of our native Rough-winged Swallow by the Bank Swallow at this site is noteworthy and may merit further consideration. The initial sighting on 18 June 1977 revealed many nesting Rough-winged Swallows, but on 14 July 1978 none could be found in the colony of Bank Swallows.

This sighting of Bank Swallows and their related nesting activities constitutes the first documented breeding record from piedmont North Carolina.

Townsend's Warbler in Western North Carolina

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Received 20 June 1975

In the early afternoon of 24 April 1975, while I was walking on the old state highway that runs through Nantahala Village 9 miles W of Bryson City, Swain County, N.C., I observed two male Townsend's Warblers (*Dendroica townsendi*) and a third bird that may have been a female of the same species. I had stopped beside a group of white pines along the roadway to look at a mixed flock of small birds, mostly Ruby-crowned Kinglets and Carolina Chickadees. A male warbler caught my attention. Its cap was solid black with golden cheeks and black ear patches. Below the black throat and bib there was black streaking on the sides, which were gold not white. The color was a gold rather than the yellow with green tones found in the Black-throated Green Warbler. Shortly after my first good look at this bird, I saw a second male Townsend's Warbler and an unidentified female warbler. The female never was seen well and may or may not have been of the same species. The birds did not call; however, they did respond to my shushing them. They came within 25 feet overhead, stayed that close for a few minutes, and then began to move off. They were in view off and on for about 10 to 15 minutes. Their response to the shushing was like that of Townsend's Warblers I had seen in June 1974 on the Kenai Peninsula in Alaska.

I was accompanied on the walk by my mother, who knows the birds that visit her feeders. I saw the birds through 8 X 40 binoculars, and my mother saw them through 7 X 50 binoculars. I was able to get her to look at the birds and compare each of the field marks with the picture in *Birds of North America* (Robbins et al. 1966). Persistent searching later in the day failed to turn up the birds again.

[NOTE: This is the only record of Townsend's Warbler from North Carolina. This western species has been recorded only rarely in eastern North America. While the author was careful in his evaluation of the observation, this species must await further corroboration before being fully acceptable for the state checklist. Publication of this report gives the Townsend's Warbler hypothetical status on the North Carolina list.—JFP]

Harris' Sparrow at Huntington Beach State Park, S.C.

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On 14 November 1977 a Harris' Sparrow (*Zonotrichia querula*) was observed by Bobby Desporte and John Bacon at Huntington Beach State Park, Georgetown County, S.C. The bird was found near the outlet of the freshwater pond bordering the causeway to the front beach. It stayed in the area for 3 days and was observed and photographed (with 300 mm and 400 mm lenses) by the writer, John Bacon, Evelyn Dabbs, and possibly several others. A number of other birders, including Patty Culbertson of Winston-Salem, N.C., and Penny Richards of Sweden, Maine, also saw the sparrow.

Although apparently in good health, the bird seemed to be hungry and spent much time in feeding. On the first day it permitted us to approach rather closely; later, however, it was more wary but remained in the area and was readily observed. This species, the largest of our sparrows, is not likely to be misidentified when in the breeding plumage. The Huntington bird's crown was not totally black but mottled as in non-breeding individuals. The bib was almost completely black, though fading somewhat, and slightly shorter than that of breeding birds.

While common in its normal range (breeding nearly to the Arctic Circle in Canada westward from Hudson Bay; wintering mostly in eastern Arkansas and Texas), this western species is rarely observed in the Carolinas. The present sighting represents the

second known record of Harris' Sparrow in South Carolina. On 5 January 1962, an adult was observed by Mrs. Edgar N. Woodfin at her feeder in Gramling, Spartanburg County, S.C. (Davis, Chat 26:22; Audubon Field Notes 16:321); it remained in the area until 26 April 1962 (Shuler, Chat 32:78-79). The Gramling bird was photographed by Jay Shuler (Chat 32:78, Fig. 1).

It may be of interest to note that while most records of the Harris' Sparrow from the southeastern United States represent individuals associated with flocks of White-crowned Sparrows (Shuler, Chat 20:65-71), such was not the case with the Huntington Beach bird.

BRIEFS FOR THE FILES

Compiled by ROBERT P. TEULINGS

(All dates 1978)

HORNED GREBE: Over 1000 were seen along the Outer Banks in the Bodie-Pea Island, N.C., area on 23 March by Kathleen Anderson and Trevor Lloyd-Evans.

DOUBLED-CRESTED CORMORANT: Observers reported a good inland count of 33 at Beaverdam Reservoir in northern Wake County, N.C., on 28 April (fide Bob Hader). One was an early and locally uncommon visitor at Lake Hartwell near Clemson, S.C., on 31 March, observed by Harry LeGrand and Sidney Gauthreaux, and another was seen at Salem Lake near Winston-Salem, N.C., on 20 April by Pat Culbertson.

ANHINGA: One was seen on the North Carolina Outer Banks at Pea Island NWR on 21 May by Herb Wilson.

GLOSSY IBIS: An estimated 1500 were counted near Charleston, S.C., on 10 April by Perry Nugent. One turned up as a rare inland visitor at Beaverdam Reservoir near Raleigh, N.C., on 23 April, observed by Bill Lezar. Another inland wanderer was found in Lenoir County, N.C., on 5 May by Bob and Mary Simpson.

BRANT: A raft of 10 late winter stragglers was seen at Hatteras Inlet, N.C., on 26 May by Guy Tudor.

BUFFLEHEAD: A late individual was still present at Hatteras Inlet, N.C., on 20 May, observed by Cliff and Randy Stringer.

COMMON EIDER: Royce Hough saw three at Cape Lookout bight off Beaufort, N.C., on the late day of 28 May.

COMMON MERGANSER: One was a late and unusual visitor at Pea Island NWR, N.C., on 19 May, reported by Robert and Peter Tripician. Twenty, all females, were seen on Lake Hartwell at Clemson, S.C., on 18 March by Harry LeGrand.

SCOTERS: Five Surf Scoters and 35 Black Scoters were late lingerers observed off Bogue Banks at Pine Knoll Shores, N.C., on 5 June by Bob Hader.

SWALLOW-TAILED KITE: On North Carolina's Outer Banks an individual was seen in Nags Head Woods on 19 April by David Lee and John Funderburg, and two were found at Bodie Island on 19 May by Robert and Peter Tripician.

BROAD-WINGED HAWK: Eight were seen circling over Ocracoke Island, N.C., on 26 May by Guy Tudor, an interesting spring record from the Outer Banks.

ROUGH-LEGGED HAWK: One was observed by Tom Haggerty in coastal Dare County, N.C., on 23 March. Another, in light-phase plumage, was seen in Haywood County, N.C., west of Asheville on 28 April by David Lee.

GOLDEN EAGLE: An immature was present at Fairlawn Plantation near Charleston, S.C., on 8 April, seen by Sidney Gauthreaux, Harry LeGrand, Bob Lewis, et al.

BALD EAGLE: Ricky Davis found two adults and two immatures at Beaverdam Reservoir north of Raleigh, N.C., on 17 May.

OSPREY: Four were observed soaring over Shining Rock Mountain, Haywood County, N.C., on 11 March by Roger Stone, an unusual spring record for the mountain area.

- MERLIN:** A transient was seen at Durham, N.C., on 22 April by Mike Schultz, and another at Winston-Salem on 30 May by Charles Frost and Ramona Snively.
- BLACK RAIL:** One was seen by John Fussell at Greenview Farm near Raleigh, N.C., on 25 May, a rare piedmont record. Fussell and other observers found a bird there again on 30 May.
- AMERICAN COOT:** A hen was found incubating six eggs at a nest in a marsh near Lowland, N.C., in Pamlico County on 19 May by Tim Playforth and M.E. Whitfield. Several other adults were seen in the vicinity, but only one nest was located.
- AMERICAN GOLDEN PLOVER:** One was a noteworthy find near Greenwood, S.C., on 12 April by Bob Lewis.
- RUDDY TURNSTONE:** Two were unusual inland visitors at Glenville Lake in Fayetteville, N.C., observed on 3 May by Ned McIntosh and M.E. Whitfield.
- PECTORAL SANDPIPER:** Three were seen at Lake James in Burke County, N.C., on 19 March by Tom Haggerty. Another migrant was found in North Carolina's western section at Julian Price Park on the Blue Ridge Parkway in Watauga County on 21 May by Ricky Davis.
- WHITE-RUMPED SANDPIPER:** Two were seen at Beaverdam Reservoir north of Raleigh, N.C., on 7 May by Clark Olson. Up to 20 were found at a farm pond near Sandy Springs, S.C., on 5 and 6 May by Harry LeGrand, Bob Lewis, and Sidney Gauthreaux. Sixteen were also present at Winston-Salem's sewage treatment plant on 9 May, fide Ramona Snively.
- STILT SANDPIPER:** An individual in breeding plumage was seen near Sandy Springs, S.C., on 9 May by Harry LeGrand, a rare inland spring record for the Carolinas.
- RED PHALAROPE:** Over 1100 were seen in the Gulf Stream off Oregon Inlet, N.C., on 17 April by David Lee and John Funderburg.
- WILSON'S PHALAROPE:** Four were found inland by Bob Lewis and other observers at a farm pond near Sandy Springs, S.C., on 5 May. Up to seven were reported by Ramona Snively to have been seen by Winston-Salem observers at the city's sewage treatment plant in early May, and one was seen at Raleigh, N.C., on 10 May by Jim Mulholland et al.
- NORTHERN PHALAROPE:** A female in partial breeding plumage was seen at Winston-Salem, N.C., on 8 May by Pat Culbertson, a second record for Forsyth County.
- BLACK-NECKED STILT:** Caroline Newhall, Louise Lacoss and Tom Smith counted 140 at a dredge spoil area on the South Carolina side of the Savannah River opposite Savannah, Ga., on 22 May. The birds are nesting there.
- BONAPARTE'S GULL:** Sizeable numbers of spring migrants were seen at several piedmont reservoirs. Highest reported counts were 60 at Lake Greenwood, S.C., on 17 March (Bob Lewis); 50 at Belews Creek Reservoir, Forsyth County, N.C., on 1 April (Ramona Snively); and up to 50 at Beaverdam Reservoir in northern Wake County, N.C., on 26 and 27 March (Bob Hader). There was also a mountain area record of one seen at Bass Lake in Watauga County, N.C., on 1 April by Tom Haggerty.
- LONG-EARED OWL:** A specimen of this seldom reported winter visitor was found dead on Highway 94 just north of Lake Mattamuskeet in Hyde County, N.C., on 22 March by Kathleen Anderson and Trevor Lloyd-Evans.
- RUBY-THROATED HUMMINGBIRD:** Two were quite early at Edisto Beach, S.C., on 22 March, Henrietta McWillie.
- GRAY KINGBIRD:** One was sighted near Atlantic Beach, N.C., on 16 May by Bob Holmes.
- BANK SWALLOW:** Over 100 migrants of this species were noted at South Carolina's Lake Greenwood on 27 April by Bob Lewis.
- WARBLING VIREO:** A rare coastal observation was recorded at Greenfield Park in Wilmington, N.C., where a migrant was closely studied on 18 April by Ricky Davis.

- HOODED WARBLER: An early individual was noted at Aiken, S.C., on 15 March, fide Anne Waters.
- YELLOW-HEADED BLACKBIRD: One was present for several days at Beaufort, N.C., in early May, observed by John Fussell, Norm Reigle and Ola Riddle.
- NORTHERN ORIOLE: Nesting in Watauga County, N.C., is strongly indicated by Tom Haggerty's reported observations of several singing males and two females in the Triplett area on 12 and 14 May.
- BREWER'S BLACKBIRD: Twelve were seen feeding in a pasture near Townville, S.C., on 18 March by Harry LeGrand. Both males and females were observed in the flock.
- TREE SPARROW: Tom Haggerty noted one on the Appalachian State University campus in Boone, N.C., on 11 March.
- WHITE-CROWNED SPARROW: One was observed on Core Banks on the North Carolina coast on 25 May by Skip Prange, a late and unusual spring record from that locality.

STAFF CHANGES

As many *Chat* readers already know, Robert P. Teulings has resigned as South Atlantic Regional Editor for *American Birds*. At the same time he relinquished the duty of compiling the "Briefs for the Files" for *Chat*. His final set of Briefs appears in this issue. Bob has held these dual posts since the summer of 1970, and we sincerely appreciate his unselfish service to bird study in the Carolinas and Georgia.

Taking Bob's place in both positions is Harry E. LeGrand Jr., of the Department of Zoology at Clemson University. Harry is well known to CBC members as our Bird Count Editor and a frequent guest compiler of the Briefs. He has served as guest editor of the regional report for *American Birds* and has written a number of papers for *Chat* and other journals. Harry's new responsibilities have forced him to resign as the Bird Count Editor of *Chat*.

John O. Fussell III of Morehead City, N.C., is the new Bird Count Editor. John assumes this post at a very trying time. The Executive Board of CBC has not yet decided how to handle future publication of the bird counts. Cost estimates are still being sought, and it may be early 1979 before a decision can be announced. John has compiled the table for the 1978 Spring Bird Count, but he did not want to publish the compilers' comments without the table in the present issue of *Chat*. A large number of count enthusiasts have requested that we run the count table and omit the compilers' comments, perhaps incorporating details of notable records into the Briefs. If a satisfactory method can be found for reproducing the count table from handwritten or typewriter copy, the counts could be published as a supplement to *Chat*. Other possibilities are being investigated. Please be patient while John and the other members of the Executive Board try to work out a practical and affordable method of making the bird count data readily available to the membership.

Harry and John are two of the most capable and enthusiastic bird students in the Carolinas. Since high school days they have been active in CBC, which John now serves as vice-president. Both hold M.S. degrees from North Carolina State University, and Harry is working toward a doctorate at Clemson. John and Harry bring to their new jobs a remarkable comprehension of the seasonal distribution of birds in the Carolinas and eastern North America. We are fortunate that they, like all the other members of our staff, are willing to volunteer their services to CBC.—EFP

BOOK REVIEW

ALABAMA BIRDS (second edition)

Thomas A. Imhof. 1976. The University of Alabama Press, University, Alabama. xv + 445 p. \$22.50

Every bird enthusiast eventually comes to own and rely rather heavily on state-level bird books, especially those concerned with the avifauna of his or her own state. Thus, a revelant question for each of us is, "What should a *state* bird book be?" A review of *Alabama Birds* with this question in mind may be especially interesting in light of the fact that a new bird book for North Carolina is a future probability. It is our contention that such works should be largely, if not strictly, regional or local in focus, and not too repetitive of readily available works more comprehensive in scope.

This second edition of *Alabama Birds* is completely revised and tries, with some success, to be much more comprehensive than regional. A beginning student of Alabama birds might well invest in this volume after purchasing a good field guide. More advanced students will find it useful for the wealth of local information not readily available elsewhere. Both, however, will be paying for much that has been duplicated from general sources.

Most of the text is comprised of species accounts for the 344 verified and 35 hypothetical birds on the state list. Although each tries to emphasize facts about the bird in Alabama, in many cases over 50% of the information provided is general facts on identification, nesting, feeding and distribution that are available in field guides. Perhaps the biggest problem frequently encountered in this kind of presentation is that of determining what portion of the information is based on local populations and what has been taken from the general literature.

Exclusively local information is in small type at the end of each account. This includes the period of occurrence; dates and sites of records, subdivided by physiographic province; and known time of breeding. Distribution maps are provided for 88 species and are a valuable addition, although in a few cases so many different symbols are plotted that the maps lose visual literacy.

The book also includes a short introductory chapter discussing bird study, the history of ornithology in Alabama, the physiography of the state, laws protecting birds, migration, and banding. There is also a glossary, and the bibliography of about 500 titles is arranged in a dozen groups and subgroups, which should facilitate reference finding. The book appears to be thoroughly and accurately indexed. A checklist with brief annotations inside the covers is a useful feature.

The illustrations are particularly noteworthy, especially the color plates by Richard Parks and David Hulse, some of which are outstanding. In spite of the fact that these illustrations are useful for identification, they are not different enough from those in standard field guides to warrant the additional expense, which probably increased the cost of the book beyond the means of some potential purchasers. There are also both color and black-and-white photographs, which are of diverse quality. Many have Alabama locality data, but a lack of specific information on a few of the more interesting photographs is disappointing. The caption under the Eared Grebe on page 55 that reads "Note the feet set far to the rear. . .," when the feet are not shown, is inexcusable.

In summary, *Alabama Birds* has some excellent and innovative features but suffers from a lack of clear purpose, trying simultaneously to satisfy both the casual bird watcher and the more serious student. This is a major problem common to most state bird books, and one that is often encouraged by publishers hoping for a larger audience. The result is an obvious compromise.—BARBARA B. LEE and DAVID S. LEE, North Carolina State Museum of Natural History, Raleigh, N.C.

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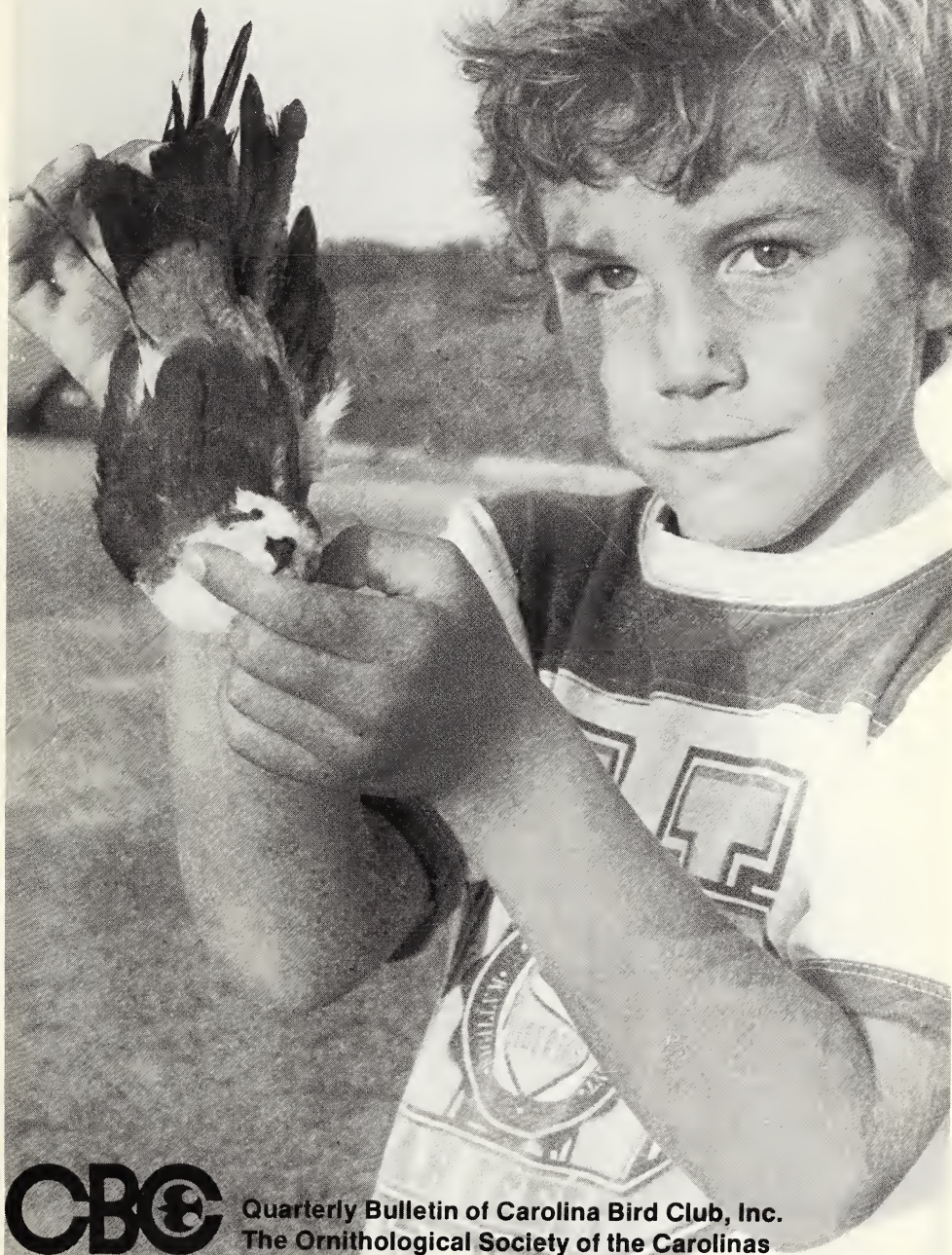
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OUR COVER—Parrish Booth, son of Captain and Mrs. John Booth of Manteo, N.C., holds a White-faced Storm-Petrel his father collected off Oregon Inlet on 24 September 1977. John Booth is one of several boat captains who have cooperated with David S. Lee in a major study of pelagic birds in North Carolina's offshore waters. (Photo by Aycock Brown)

ADDITIONS TO THE SEABIRD FAUNA OF NORTH CAROLINA

DAVID S. LEE and RICHARD A. ROWLETT

During the last several years the knowledge of North Carolina's pelagic and offshore avifauna has been greatly enhanced. Not only is information available concerning expected seasonal occurrence of the known fauna (Lee and Booth, in prep.), but documented seabird diversity has significantly increased. Although some information has been obtained accidentally from storm casualties, most of the recent data are a direct result of numerous planned offshore trips for the express purpose of observing and identifying birds at sea. These trips have contributed significantly to the understanding of the seasonal and geographic distribution of seabirds in the western North Atlantic.

Since publication of *The Birds of North Carolina* (Pearson et al. 1942) five additional species of seabirds have been added to the state list (see Parnell et al. 1978), all of which were officially documented in the last 10 years. They are Leach's Storm-Petrel (*Oceanodroma leucorhoa*) (Blem and Sonneborn 1972); Harcourt's Storm-Petrel (*O. castro*) (Fussell 1974); Black-capped Petrel (*Pterodroma hasitata*) (Lee 1977); Sabine's Gull, (*Xema sabini*) (Culbertson 1977); and Bridled Tern (*Sterna anaethetus*) (Browne et al. 1976).

This paper provides documentation of seven species not previously recognized as occurring in North Carolina's offshore waters, and additional records for the Black-capped Petrel.

The records presented here are mostly incidental observations from a long-range study by Lee on the natural history of seabirds in North Carolina's offshore waters. Information on measurements, geographical and seasonal distribution, food items, and resource partitioning will be presented elsewhere. Studies on external parasites (M.M. Browne, N.C. State University), internal parasites (Ron Mobley, N.C. State University), heavy metal concentrations (Joseph Bonaventura, Duke University Marine Laboratory), and the oil glands (David W. Johnston, University of Florida) of these birds are in progress. Specimens have been deposited in the systematics collection of the North Carolina State Museum (NCSM) and the United States National Museum (USNM), and measurements of those cited in this paper are summarized in Table 1.

Northern Fulmar (*Fulmarus glacialis*). Even though the Northern Fulmar has experienced rapid population and range expansion in Europe during this century (Fisher 1952, Lockley 1974), and there are numerous winter sight records from the Baltimore Canyon (Rowlett, pers. obs.) and one from South Carolina (Nugent 1978), its occurrence in North Carolina's offshore waters has not been documented. The recently summarized knowledge of this bird in North Carolina was reported as follows (Lee and Booth, in prep.): "Two previously unpublished records are available for this species in North Carolina. In the early spring of 1973 John Williamson, Refuge Manager of the Pea Island National Wildlife Refuge, received an injured Fulmar that a visitor found on a parking lot at the refuge. The bird died several days later, in spite of attention given to it by the refuge staff, but the specimen was not saved. On 14 October 1976 we watched a light-phase fulmar for approximately 15 minutes as it flew in a parallel line with the course of our boat at a distance of about 50-70 yards. The bird glided several feet above the water, occasionally flapping its wings. Its large, light head and neck provided a marked contrast to its gray wings. This sighting was made approximately 35 miles southeast of Oregon Inlet at the edge of the continental shelf."

On 17 May 1978 Eloise Potter, Ron Mobley, Lee, and the crew of the *Gal-O-Mine* watched a fulmar for 3 to 5 minutes as it fed on a chum slick they had placed approximately 8 miles S of the Diamond Shoals Light. Its large head and neck and soaring-flapping flight were noted as the bird flew. Later they watched as it swam on the surface among feeding Laughing Gulls and Wilson's Storm-Petrels. On several occasions the bird was seen within 20 yards of the boat. On 18 May 1978 a second bird, with a decidedly yellowish head and neck, was observed and later collected by Lee approximately 47 miles E of

TABLE 1. Measurements and weights of specimens of seabirds collected during this study.
(NCSM) = North Carolina State Museum; USNM = U.S. National Museum.)

<i>Species/date</i>	<i>Museum No.</i>	<i>Age/sex</i>	<i>Total length</i>	<i>Tail length</i>	<i>Tarsus</i>	<i>Wing cord</i>	<i>Wing span</i>	<i>Weight</i>
Northern Fulmar								
18 May 1978	NCSM 6457	y.g. female	460 mm	117 mm	47 mm	350 mm	1125 mm	642.4 g
1 October 1978	NCSM 6864	male	466 mm	126 mm	54 mm	318 mm	1120 mm	731.6 g
1 October 1978	NCSM 6880	ad. female	468 mm	126 mm	54 mm	309 mm	1055 mm	556.0 g
Manx Shearwater								
Spring 1978	NCSM 6554	prob. ad. female	343 mm	80 mm	43 mm	245 mm	ca. 858 mm	ca. 370 g
30 December 1978	NCSM 7091	male	386 mm	79 mm	49 mm	221 mm	755 mm	430.3 g
30 December 1978	NCSM 7092	male	385 mm	79 mm	50 mm	230 mm	787 mm	423.6 g
30 December 1978	NCSM 7093	male	390 mm	77 mm	51 mm	232 mm	778 mm	409.7 g
30 December 1978	NCSM 7094	ad. female	403 mm	77 mm	54 mm	237 mm	822 mm	503.4 g
Black-capped Petrel	NCSM 6456	im. female	370 mm	140 mm	30 mm	275 mm	930 mm	373.5 g
White-faced Storm-Petrel	NCSM 6223 and USNM 527825	ad. female	—	73 mm	51 mm	157 mm	424 mm	47.6 g
Long-tailed Jaeger								
31 August 1977	NCSM 6280	im. female	—	175 mm	39 mm	284 mm	835 mm	202.5 g
23 August 1977	NCSM 6281	im. female	410 mm	150 mm	45 mm	290 mm	820 mm	271.5 g
24 September 1977	NCSM 6391	im. female	384 mm	150 mm	41 mm	305 mm	926 mm	291.0 g
7 November 1977	NCSM 6392	im. female	380 mm	120 mm	46 mm	301 mm	890 mm	349.5 g
25 September 1977	NCSM 6616	im. female	384 mm	130 mm	38 mm	290 mm	933 mm	219.9 g
South Polar Skua	USNM 573001	ad. female	—	140 mm	61 mm	366 mm	—	—
Arctic Tern	NCSM 6000	im. male	ca. 365	161 mm	14 mm	255 mm	734 mm	110.4 g

TABLE 2. Summary of Carolina records for the Black-capped Petrel.
(° Observed by the authors. (P) Documented with photographs. (S) Documented with specimen.)

<i>Date</i>	<i>Position</i>	<i>Number</i>	<i>Source</i>
6 Sept. 1966	N. Fla. to S.C. from 30°15' - 33°30'N and 78°50' - 76°30'W	12+	Morzer Bruyns, 1967
22 Oct. 1972	50 mi SE Morehead City	1	Lee, 1977
21 Oct. 1973	30 mi SSE Morehead City	1	Lee, 1977
4 Aug. 1974	Off Cape Hatteras	6	Lee, 1977
18 May 1975	Gulf Stream off Hatteras	2	Lee, 1977
12 Oct. 1975	22 mi E Cape Hatteras, 35°10'N, 75°05'W	1°	Lee, 1977
1 Aug. 1976	20 mi E Cape Hatteras, 35°06'N, 75°10'W	1° (P)	this study
6 Sep. 1976	22 mi SSW Cape Hatteras, 34°52'N, 75°33'W	1°	Lee, 1977
6 Sep. 1976	23 mi SSW Cape Hatteras, 34°51'N, 75°33'W	1°	Lee, 1977
14 Oct. 1976	28 mi SSE Oregon Inlet, 35°36'N, 75°00'W	1°	Lee, 1977
14 Oct. 1976	30 mi SSE Oregon Inlet, 35°36'N, 74°58'W	1°	Lee, 1977
4 Feb. 1977	42 mi SSE Cape Hatteras, 34°37'N, 75°07'W	1° (P)	this study
4 Feb. 1977	38 mi SE Cape Hatteras, 34°50'N, 74°55'W	1°	this study
4 Feb. 1977	40 mi ESE Cape Hatteras, 34°54'N, 74°49'W	1°	this study
21 May 1977	19 mi SSW Cape Hatteras, 34°55'N, 75°32'W	1° (P)	this study
21 May 1977	16 mi SSW Cape Hatteras, 34°57'N, 75°34'W	1°	this study
25 May 1977	30 mi E Oregon Inlet, 35°33'N, 74°59'W	1°	this study
1 June 1977	ca. 35 mi E Oregon Inlet, 35°31'N, 74°53'W	1+	this study
22 June 1977	ca. 30 mi E Oregon Inlet	1	this study
19 July 1977	38-40 mi E Oregon Inlet, ca. 35°30'N, 74°50'W	1	this study
22 Sept. 1977	29 mi E Oregon Inlet, 35°42'N, 74°58'W	1°	this study
23 Sept. 1977	29 mi E Oregon Inlet 35°40'N, 74°58'W	1	this study
7 Nov. 1977	46 mi SE Oregon Inlet, 35°28'N, 74°44'W	1°	this study
17 April 1978	ca. 37 mi E Oregon Inlet, 35°33'N, 74°51'W	1-2	this study
10 May 1978	ca. 44-48 mi SE Oregon Inlet, 35°28'N, 74°47'W to 35°27'N, 74°43'W	16+° (S)	this study
18 May 1978	ca. 46 mi ESE Oregon Inlet, 35°37'N, 74°37'W	3°	this study
20 Aug. 1978	Off Hatteras Inlet	1°	this study
10 Oct. 1978	Off Hatteras Inlet	20-40°	this study



Fig. 1. A Black-capped Petrel was flying over the Gulf Stream off North Carolina on 4 August 1976. (Photo by Richard A. Rowlett)

Oregon Inlet. Both birds were encountered along the western edge of the Gulf Stream.

Captain Allen Foreman collected two Northern Fulmars for the North Carolina State Museum on 1 October 1978, 40 miles E of Oregon Inlet. On 14 November 1978, Steve Platania and Lee observed two additional fulmars about 40 and 30 miles SSE of Oregon Inlet. One was a dark-phase bird, the only such individual observed off North Carolina to date.

Manx Shearwater (*Puffinus puffinus*). The only report of this species in North Carolina waters was a sight record made by Buckley (1973) of two individuals seen in migration from the beach at Hatteras on 31 May 1970.

On 17 April 1978, 30 miles E of Oregon Inlet, Lee saw an unidentified shearwater that he believes to have been this species. Although field marks were not confirmed, its identity is based on the following points: Audubon's Shearwater has not been observed locally this early in the season; the bird looked larger than an Audubon's; the wing beat was slower than that of an Audubon's; and the individual was several (5+) miles inshore from the Gulf Stream. The latter point is relevant because Audubon's Shearwater, unlike the Manx Shearwater, is a warm-water species and would be expected only in association with the Gulf Stream this early in the season.

In the early spring of 1978, Mr. and Mrs. Tim Mutchles salvaged a dead, oil-soaked shearwater from the campground area at Cape Hatteras beach. At our request this specimen was sent to the N.C. State Museum, and we confirmed their suspicion that it was a Manx Shearwater. Although this bird represents the first specimen record for the species from the Carolinas, there is a recent storm-wreck specimen record for Virginia (29 June 1975, USMN).

Lee and Platania observed a single Manx Shearwater and one other unidentified black-and-white shearwater 40 miles SSE of Oregon Inlet near the edge of the Gulf

Stream on 5 December 1978. On 30 December 1978 Lee collected four individuals in approximately the same area. The birds were near the edge of the Gulf Stream (22 degrees C) but over "cold" water (16.5 degrees C).

Black-capped Petrel (*Pterodroma hasitata*). Since the first reporting of Black-capped Petrels in North Carolina waters (Lee 1977), numerous additional records have accumulated. Rowlett (see Fig. 1) has documented the species' presence with photographs and added six other records, and several more sightings have been published in *American Birds*. On recent N.C. State Museum offshore trips Lee acquired an additional 27 sight records and one specimen (19 May 1978). Apparently this species is a regular offshore resident, and individuals probably are present throughout the year along the inner edge of the Gulf Stream (see Table 2).

It is interesting to note that the presence of the Black-capped Petrel in South Carolina offshore waters has been known for over a decade (Mörzner Bruyns 1967), although this reference has apparently been overlooked by that state's records committee.

White-faced Storm-Petrel (*Pelagodroma marina*). Buckley and Wurster (1970) and Barnhill and DuMont (1973) summarized previous North Atlantic records of this species. Although there are a limited number of sightings from near shore, records exist for Delaware, New York, Massachusetts, and New Jersey. Robert Ake and David Johnson (Am. Birds 26:45) saw two storm-driven individuals in Oregon Inlet on 2 October 1971, but there are no detailed reports of the species' occurrence in North Carolina. On 31 August 1977 Captain John Booth, Manteo, N.C., collected a specimen of an unfamiliar seabird 38 miles off Oregon Inlet. Although the bird was later positively identified by Booth, the specimen was lost to a neighbor's cat while Booth was calling Lee about the record. On 24 September 1977, Booth collected a second individual (see front cover) at the same location (NCSM 6223, now USNM 527825). Booth commented on the erratic, bouncing flight of both individuals and stated that the bird is unmistakable from any distance. Sub-specific identification of the single specimen is being determined by George Watson of the U.S. National Museum.

White-faced Storm-Petrels may not be as scarce as our records indicate, for one commercial fisherman reported seeing them on several occasions in the fall of 1977.

Long-tailed Jaeger (*Stercorarius longicaudus*). Because of problems in identifying birds not in spring plumage, this jaeger may also be more common than our few records indicate. It is interesting to note that all sight records are of birds in spring plumage. Buckley (1973) discussed 10 individuals, which he observed from shore during a spectacular seabird migration, 30 May through 1 June 1970. The only other published sight report is from Cape Lookout on 13 May 1972 (Chat 36:114). On 25 May 1977, Lee watched an adult Long-tailed Jaeger for more than 20 minutes as it hovered and fed around a chum slick 12-15 miles due east of Oregon Inlet. Its long central tail feathers were visible even from a considerable distance. On 23 August, 31 August, and 24 September 1977, John Booth collected four immature specimens, but at the time was unable to distinguish them by sight from Parasitic Jaegers. Lee obtained an additional specimen on 7 November 1977, at which time all three jaeger species were observed and collected. Again, he was unable to distinguish this species from fall-plumaged Parasitic Jaegers until the bird was in hand.

On 17 May 1978, Potter, Mobley, and Lee watched two full-plumaged birds as they flew above the boat 15 miles ENE of Diamond Shoals Light. Long central tail feathers and the more streamlined body readily distinguished these birds from the Pomarine Jaegers that had been seen earlier in the day.

South Polar Skua (*Catharacta maccormicki*). Two documented occurrences of this bird are here recorded for North Carolina. A dark-phase female (USNM 568001) was found at Cape Hatteras, Dare County, by Joseph P. Hudick on 17 May 1976 (see Fig. 2). On 21 May 1977, Rowlett photographed an apparently light-phase South Polar Skua in the Gulf Stream, 18 miles S of Cape Hatteras. The bird was observed for about 30 minutes by 40 bird watchers at a distance of 30 to 160 feet (see Fig. 3).

Great Skua (*Catharacta skua*). John L. Brookshire, of Winston-Salem, found a banded Great Skua at Cape Lookout, Carteret County, N.C., on 29 December 1975.



Fig. 2. A South Polar Skua was photographed shortly after it was found injured at Cape Hatteras, Dare County, N.C., 17 May 1976. (Photo by Joseph P. Hudick)

Although the specimen was not saved, the band revealed that it was a bird banded five months previously in Iceland. Eloise Potter wrote inquiring about the record and received the following information from Aevor Petersen, Curator of Zoology at the Natural History museum in Reykjavik:

Ring no. Reykjavik 23422. Catharacta skua. Ringed as young 24.7.1975 at Kvísker, Hofshv., A.-Skaft., SE.Iceland (63°59'N - 16°26'W) by the Brathay Exploration Group.

Recovered 29.12.1975 at Cape Lookout, Carteret County, North Carolina, U.S.A. (34°30'N - 76°30'W). Found dead on the beach. ...

The Brathay Expl. Group is a group of amateur bird watchers that return to Iceland every year to ring Great Skuas. As a result of their ringing - and that by Icelandic ringers - we already know a great deal about the migration pattern of Icelandic Great Skuas. So far we have had 60 recoveries from the west side of the Atlantic: 47 from Greenland, 9 from Newfoundland, 1 from North Carolina, 2 from Guyana (=Surinam) and 1 from Brazil.

This is the first verified record of the Great Skua from North Carolina.

Several sight records of skuas from North Carolina were not identified to species. The first such report came from Eugene Pond, who saw a skua on the water and in flight from the Frying Pan Lightship, about 25 miles SE of Southport, on 1 August 1960 (Chat 24:105). Two separate individuals were seen off the beach, 4 miles NE of Hatteras Inlet, Dare County, 31 May 1970 (Buckley 1973). Rowlett observed single birds off the beach at

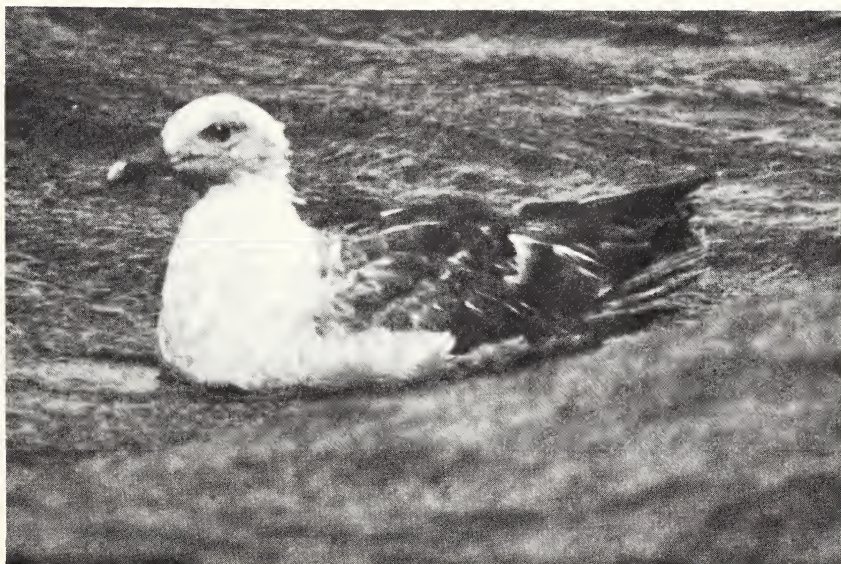


Fig. 3. Another South Polar Skua was photographed in flight and resting on the water 18 miles off Cape Hatteras on 21 May 1977. (Photos by Richard A. Rowlett)



Fig. 4. An Arctic Tern was flying off Cape Hatteras, N.C., 21 May 1977. (Photo by Richard A. Rowlett)

Pea Island National Wildlife Refuge, Dare County, 18 February 1974 (Atl. Nat. 29:175), and at sea, 14 miles S of Cape Hatteras, 6 July 1975. The latter Rowlett sighting was previously reported as having been seen 24 miles ESE of Cape Hatteras on 5 July 1975 (Am. Birds 29:959). Lee has two records from trips out of Oregon Inlet (25 May and 1 June 1977). All these birds were initially assumed to have been Great Skuas, but the recent documentation of *C. maccormicki* in the North Atlantic (Veit 1978 and this paper) leaves their identity open to question.

Arctic Tern (*Sterna paradisaea*). Sykes et al. (in prep.) are summarizing the few documented records of this tern from the western Atlantic. For North Carolina there are two sight records (19 May 1973 and 6 September 1976, Rowlett), one photographic record for 21 May 1977 when five birds were observed 18 miles S of Cape Hatteras (Rowlett, Fig. 4), and a single specimen (18 May 1977). Lee collected the specimen (NCSM 6000) approximately 32 miles ESE of Oregon Inlet. The bird was resting on a board floating in a drift line of Sargassum. Two other *Sterna*, both in adult plumage and with very red bills, were floating in the water next to the board. The specimen was a male in "Portlandica" plumage, and the bill was dark with only a trace of red at the base. For a discussion of this plumage, see Ridgway (1874). These are the first specimen and photographic records of the Arctic Tern from the Carolinas.

The addition of 12 pelagic species to the documented North Carolina avifauna during the present decade was accomplished through the combined efforts of many people. Bird students too numerous to mention have contributed records to our rapidly growing, but still far from adequate, body of data on seabird diversity, abundance, and seasonal occurrence. Because of the random nature of seabird excursions and their great cost, many years will elapse before we have a relatively complete understanding of these matters.

Meanwhile, it is hoped that persons pursuing offshore birds will continue to document their finds with specimens, photographs, and detailed accounts published in appropriate journals. It is also hoped that editors will understand the importance of the often fragmented reports of offshore trips and continue to accept records of the relatively common species as well as of the rare or previously unreported ones that surely will be found off the North Carolina coast in the future.

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INLAND HERONRIES OF NORTH CAROLINA

ROBERT F. SOOTS JR. and JAMES F. PARNELL

There are only a few reports in the literature concerning the past or present locations, species composition, and numbers of colonial herons and egrets nesting in the North Carolina coastal plain. *Birds of North Carolina* (Pearson et al. 1942) lists nine such species that are known to have nested at inland locations, namely the Great Blue Heron (*Ardea herodias*), Green Heron (*Butorides striatus*), Little Blue Heron (*Florida caerulea*), Great Egret (*Casmerodius albus*), Snowy Egret (*Egretta thula*), Louisiana Heron (*Hydranassa tricolor*), Black-crowned Night-Heron (*Nycticorax nycticorax*), Yellow-crowned Night-Heron (*Nyctanassa violacea*), and White Ibis (*Eudocimus albus*). Inland nesting sites are mentioned from the following counties: Carteret, Craven (Great Lake and Jones Mill Pond), Bertie (at Quitsna, which is about 9 miles from Windsor) (Lay 1937, Craighill and Grey 1938), Brunswick (Orton Pond and a small pond near Shallotte), Hyde (Lake Mattamuskeet), Onslow, Robeson (near Red Springs and at Lennon's Marsh near Lumberton), and Washington (near Plymouth).

Between the late 1890s and the mid-1950s, the Great Blue Heron was the most numerous and widely distributed heron reported as breeding in mixed-species colonies inland on the coastal plain. Nest sites, if described, usually were in cypress trees.

At various times during the first half of the present century, Great Blue Herons, Little Blue Herons, Great Egrets, Snowy Egrets, and Louisiana Herons have been found nesting at Orton Pond; but there is no evidence that all these species ever nested there in a single season.

In 1949 Robert Wolff (1951) discovered a heronry composed of Green and Little Blue Herons near Plymouth in northeastern North Carolina. The colony was destroyed by a timbering operation in 1953 (Wray 1954).

Lennon's Marsh near Lumberton was the best known and most diverse of the inland heronries in North Carolina. Stephens (1948) described this colony and listed Great Blue Herons, Little Blue Herons, Great Egrets, and Black-crowned Night-Herons as nesting there. He did not indicate how long this heronry had been active.

In 1950 the first record of nesting White Ibis in North Carolina was reported by Stephens (1950) at the Lennon's Marsh site. Twelve hundred birds were said to be present. There was no indication of whether or not all were nesting. By 1953 the ibis had abandoned the site (Wray 1954). Herons and egrets continued to nest for several years, but the colony finally was abandoned. The abandonment of Lennon's Marsh seems to have signaled the end of the occurrence of the mixed-species heronries other than colonies of Great Blue Herons and Great Egrets in the inland swamps of North Carolina. Although there are few recent reports of inland heronries, the number of reports of estuarine heronries increased during the 1960s and early 1970s.

In 1975 we contracted with the U.S. Fish and Wildlife Service to obtain site locations and population estimates of all wading-bird colonies in coastal North Carolina. We were currently studying the estuarine heronries under a grant from the North Carolina Sea Grant program. We had not, however, surveyed the coastal swamps. With the advent of the U.S. Fish and Wildlife Service contract, we planned aerial surveys of all of the major coastal swamps in eastern North Carolina. The surveys were initiated in the spring of 1975 and were repeated in 1976.

MATERIALS AND METHODS

The initial search for heronries was from the air. In 1975 we used both a Cessna 170 aircraft and a Bell Model No. 47G5 helicopter in the search. Surveying from the fixed-wing aircraft proved to be the more efficient method for locating colonies, but the helicopter was a better platform for counting nests. The helicopter, however, was considerably more expensive than the fixed-wing aircraft, and budgetary constraints eventually

TABLE 1. 1975 survey of inland heronries in the North Carolina coastal plain.

<i>County</i>	<i>Colony Name</i>	<i>Coordinates</i>	<i>Species Present</i>	<i>No. Nests</i>	<i>Habitat</i>
Brunswick	Lockwood's Folly	33°56'-78°12'	Great Blue Heron	5	Cypress swamp
Brunswick	Orton	34°03'-77°58'	Great Blue Heron	27	Cypress swamp
Brunswick	Sandhill Creek	34°08'-77°59'	Great Blue Heron	29	Cypress swamp
Pender	Riegelwood	34°23'-78°14'	Great Blue Heron	2	Cypress/gum swamp
Bladen	Colly Creek	34°38'-78°28'	Great Blue Heron	1	Cypress swamp
			Great Egret	10	
Bertie	Conine Creek	35°53'-76°59'	Great Blue Heron	35	Cypress/gum swamp
			Great Egret	?	
Hertford	Upper Chowan	36°29'-76°57'	Great Blue Heron	56	Cypress/gum swamp
			Great Egret	104	

forced us to eliminate its use. The helicopter also caused greater disturbance in colonies. In 1976 we used only the Cessna 170 aircraft.

The basic search plan involved flying a grid over the coastal swamps and other suitable habitat. After some trial and error, we ascertained that an altitude of about 400 feet and a ground speed of about 80 to 100 miles per hour gave the best results. Two observers, in addition to the pilot, were more effective than one observer and one pilot-observer. Each observer watched one side of a transect with the plane flying down the transect center. In much of our search, the pilot and one observer were used, each watching one side of the flight path. All personnel were experienced in aerial censusing.

All large swamps were surveyed from their junction with the coastal sounds inland until the flooded swamps began to give way to upland habitats or to human development. The stopping points were selected by the observer and were based on his best estimate of habitat suitability. Our efficiency increased as we began to find colonies and gain experience in recognizing suitable habitat.

We also sought information on colony sites from wildlife biologists, fishermen, and other local sources. These sources usually indicated that likelihood of colonies in certain swamps rather than actual colony locations.

In the air, we looked for birds in the tree tops or in flight. Often flying birds were followed, and occasionally this method would lead us to a colony site. Colonies containing Great Egrets were much more visible than colonies without them, and therefore much easier to locate. Great Blue Herons blended into the canopy vegetation and were difficult to see. Surveys done prior to the leafing of the trees were more satisfactory than later ones, the birds being much more readily visible. Surveys coordinated with the blooming of dogwoods appear to be ideal for locating inland heronries in North Carolina. Both Great Egrets and Great Blue Herons are nesting by that time, and most swamp trees have not yet leafed out.

It proved to be almost impossible to count all nests in colonies of more than about 25 nests from a fixed-wing aircraft. Therefore, we photographed all colonies from the air using 35mm single lens reflex cameras and Kodak-Plus-X film. We used either normal or short telephoto lenses. These photographs were enlarged to 8 x 10 or 11 x 14 inches, and individual nests were counted by observing the photographs through a Luxo magnifier. Again, Great Egrets were easier to see than Great Blue Herons, but results were generally satisfactory for both species.

We also visited several colonies by boat and on foot for ground counts. We generally found colonies impossible to census from the ground if the vegetation had leafed out. Because we were unable to make ground checks prior to the leafing out of the trees, we cannot evaluate this technique. Most colonies would be very difficult to reach, however, as many were in remote swamps that were not accessible by boat. Aerial surveys thus apparently offer the best opportunity for nest censuses.



Fig. 1. Locations of inland heronries in eastern North Carolina in 1976. Site 1, Twin Lakes; 2, Shallotte; 3, Lockwood's Folly; 4, Orton Pond; 5, Juniper Creek; 6, Sandhills Creek; 7, Bogue Swamp #1; 8, Bogue Swamp #2; 9, Tussock Bay; 10, Colly Creek; 11, Hunter's Creek; 12, Croatan Forest; 13, Goshen Creek; 14, Swanquarter; 15, Conoho Creek; 16, Conine Creek; 17, Broadneck Swamp # 1; 18, Broadneck Swamp # 2; 19, Roxobel; 20, Rich Square; 21, Occoneechee; 22, Upper Chowan.

TABLE 2. 1976 survey of inland heronries in the North Carolina coastal plain.

<i>County</i>	<i>Colony Name</i>	<i>Coordinates</i>	<i>Species Present</i>	<i>No. Nests</i>	<i>Habitat</i>
Brunswick	Twin Lakes	33°56'-78°31'	Great Blue Heron	2	Undev. swamp
Brunswick	Shallotte	33°57'-78°24'	Great Blue Heron	16	Undev. swamp
Brunswick	Lockwood's Folly	33°56'-78°12'	Great Blue Heron	3	Cypress swamp
Brunswick	Orton Pond	34°03'-77°58'	Great Blue Heron	21	Cypress swamp
Brunswick	Juniper Creek	34°04'-78°24'	Great Blue Heron	3	Cypress swamp
Brunswick	Sandhills Creek	34°08'-77°59'	Great Blue Heron	44	Cypress swamp
Columbus	Bogue Swamp #1	34°15'-78°33'	Great Blue Heron	52	Cypress swamp
Columbus	Bogue Swamp #2	34°17'-78°34'	Great Blue Heron	1	Cypress swamp
Bladen	Tussock Bay	34°33'-78°22'	Great Blue Heron	29	Cypress swamp
Bladen	Colly Creek	34°38'-78°28'	Great Blue Heron Great Egret	10 6	Cypress swamp
Carteret	Hunter's Creek	34°49'-77°05'	Great Blue Heron	46	Undev. swamp
Craven	Croatan Forest	34°59'-77°04'	Great Blue Heron	8	Undev. swamp
Duplin	Goshen Swamp	35°02'-77°52'	Great Blue Heron	14	Undev. swamp
Hyde	Swanquarter	35°23'-76°16'	Great Blue Heron	60	Cypress swamp
Martin	Conoho Creek	35°53'-77°02'	Great Blue Heron Great Egret	80 4	Gum swamp
Bertie	Conine Creek	35°53'-76°59'	Great Blue Heron Great Egret	175 225	Cypress/gum swamp
Bertie	Broadneck Swamp #1	35°58'-77°08'	Great Blue Heron Great Egret	170 3	Undev. swamp
Bertie	Broadneck Swamp #2	36°03'-77°14'	Great Blue Heron	36	Undev. swamp
Northampton	Roxobel	36°11'-77°18'	Great Blue Heron	37	Undev. swamp
Northampton	Rich Square	36°12'-77°21'	Great Blue Heron	17	Undev. swamp
Northampton	Oconeechee	36°20'-77°31'	Great Blue Heron	14	Undev. swamp
Hertford	Upper Chowan	36°29'-76°57'	Great Blue Heron Great Egret	150 20	Undev. swamp



Fig. 2. A colony of Great Blue Herons and Great Egrets located in the upper canopy of a swamp forest along the Chowan River can be seen in the aerial photograph on the facing page.

RESULTS

Only Great Egrets and Great Blue Herons were found nesting in the coastal plain swamps. Both species placed their nests in the tops of the canopy vegetation, generally from 50 to 100 feet above the ground. We made no effort to census Green Herons or the night-herons, which usually nest beneath the canopy and cannot be censused from the air. While these species are known to nest in North Carolina, the locations of their inland colony sites and the levels of their populations remain completely unknown. Their occurrence in the estuary has been documented.

Table 1 gives the locations of inland colonies found in 1975. Table 2 and Figure 1 show the locations of colonies found in 1976. The increased number of colonies located in 1976 was primarily the result of a more thorough search. However, some new colonies could have become established. The 1975 data are used only for comparisons between nesting years at particular sites and to indicate that colonies are subject to destruction and fluctuations.

In 1976, 22 heronries were found in the coastal plain swamps of eastern North Carolina. Many were located along the major river systems, but a few were in isolated swamps near major sounds or the Atlantic Intracoastal Waterway. While the search was intensive and carefully done, it is likely that some colonies were not found. Perhaps this report will stimulate the reporting of colony sites not mentioned here.

Great Blue Herons and Great Egrets were the only two species found in the treetop colonies censused. The Great Blue Heron was the more abundant of the two. We located 988 nests in 22 colonies. Five colonies with a total of 258 nests of the Great Egret were found. They were always associated with Great Blue Herons. No other species of egrets or herons were observed at inland nesting colonies, although Green Herons or night-herons may have occasionally occupied lower levels in the colonies. Green Herons were frequently observed flying over the canopy of swamps.

Great Blue Herons and Great Egrets were always found nesting in the upper canopy of the forest although nests were sometimes as much as 20 to 30 feet below the canopy top (Fig. 2). Nests never extended down into the low-tree stratum. Often colony sites were in clusters of trees that were taller than the surrounding canopy level. It appeared that the birds were choosing the most elevated sites available. Colonies were generally in sites dominated either by cypress (*Taxodium* sp.) or gum (*Nyssa* sp.) or a combination of the two. However, two colonies were located in loblolly pines (*Pinus taeda*). The swamp cottonwood (*Populus heterophylla*) was the only other species observed with nests in its canopy. Colonies were generally over water, although some were over irregularly flooded plains or along the edges of swamps or ponds.

Little Blue Herons were the most abundant nesters in the inland colonies along the south Atlantic Coast in the first half of the century (Ogden 1978). In the 1950s they apparently abandoned the inland sites and transferred their breeding effort to the mixed-species colonies in the estuary. Our recent censuses indicate that Great Blue Herons have continued to nest almost exclusively in the inland swamps of the coastal plain in North Carolina, although scattered pairs may nest in the estuary. Great Egrets now nest in greater numbers than formerly in the estuarine colonies, but whether or not this represents a shift or an expansion of the population is unknown. In the future we propose to investigate further this apparent shift of wading birds from inland to estuarine colonies.

ACKNOWLEDGMENTS

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Roundtable

... with Louis C. Fink

Free Bluebird Houses

Write to Bluebird House, Exxon Company, U.S.A., P.O. Box 2180, Houston, Texas 77001. If you are one of the first 15,000, they'll send you free a bluebird house made of fiberboard and coated with paraffin wax.

Exxon's magazine always carries a nature article or two. The most recent has a beautiful spread on Big Thicket, our first "National Preserve." It embraces over 84,000 acres.

Late-nesting Bluebirds

Josh (Purple Martin) Lee recently inquired about late-nesting Eastern Bluebirds in the Carolinas. The latest I have ever seen young leave the nest is 16 August (Chat 32:28-29). Matt L. Thompson and John K. Terres saw young leave boxes at Chapel Hill on 16 and 21 August, respectively (Terres, Chat 27:80). Bob Ruiz (Chat 34:28) reported seeing a male bluebird carrying nesting material into a box while a female perched nearby on 26 and 28 October 1969. Bob doesn't indicate that eggs were laid, and I suspect this was just another example of autumn recrudescence of courtship activities. Mid-August probably is a late, but not uncommonly late, time for young of the third broods to leave the nest, and I am not aware of any clutches laid after that date. Perhaps the real question is "How often do Eastern Bluebirds successfully rear three broods in a single season?"—EFP

Thomas D. Burleigh (Georgia Birds, 1958) wrote, "In Georgia, two, and possibly three, broods are reared each year, as fresh eggs can be found from the middle of March until the middle of July."—LCF

Beached Bird Survey

In November 1978 Malcolm M. Simons Jr. and his cooperators celebrated the fourth anniversary of the beginning of the Atlantic and Gulf Coast Beached Bird Survey Project. Valuable data on coastal bird mortality, particularly the incidence of oiling, have been obtained as a result of the survey. Director Simons is trying to enlist additional participants. Each observer is expected to cover at least 2 miles of beach weekly or biweekly and to record specified data on sheets that are turned in quarterly. Further information can be obtained by writing Malcolm M. Simons Jr., 1701 E. Harbor View Road, Box 52, Charlotte Harbor, Florida 33950.

The 300 Club

Entries are coming in for the 300 Club, which has three classes of membership: observing 300 species in North Carolina, South Carolina, or the two States together. Harry LeGrand has a list of 325 for the Old North State, and says it would have been higher if a hurricane had not wiped out a pelagic trip. Harry's South Carolina list is 292. His combined total for the Carolinas is 333. He wants to see a Black Rail and a Black-capped Petrel. (The petrel keeps eluding Harry.)

Eloise Potter reports a North Carolina list of 317, South Carolina 146, and the combination 318 species. Eloise wants an Olive-sided Flycatcher, Philadelphia Vireo (because friends don't believe she's seen a Bell's Vireo and not a Philadelphia), and a Black-billed Cuckoo.

Schedule of Some Birds

In the previous issue, we listed a few of the small land birds that spend the winter with us. You were urged to report any dates you could extend from personal observation and to keep your records in a copy of "Checklist of North Carolina Birds," available for a dollar from CBC Headquarters, P.O. Box 1220, Tryon, N.C. 28782. Now we offer another set of dates, for birds that breed in North Carolina but do not normally winter here. Check these dates with your own observations.

<i>Species</i>	<i>Earliest arrival</i>	<i>Latest departure</i>
Eastern Kingbird	10 March	31 December
Great Crested Flycatcher	7 April	30 December
Acadian Flycatcher	4 April	5 October
Trail's Complex (Willow and Alder)	27 April	29 September
Willow Flycatcher	8 May	19 August
Alder Flycatcher	10 May	—
Least Flycatcher	23 April	9 October
Eastern Wood Peewee	22 March	29 December
Olive-sided Flycatcher	19 April	26 October
Rough-winged Swallow	9 March	6 September
Barn Swallow	19 March	2 January
Cliff Swallow	6 April	27 November
Purple Martin	11 February	23 August
Wood Thrush	24 March	20 January
Blue-gray Gnatcatcher	15 March	22 January
Red-eyed Vireo	23 March	4 November
Black-and-white Warbler	3 March	2 January
Prothonotary Warbler	23 March	3 January
Swainson's Warbler	13 April	19 October
Worm-eating Warbler	23 March	4 January
Golden-winged Warbler (mountains only)	9 April	7 October
Northern Parula	11 March	ca. 10 January
Yellow Warbler	4 April	29 December
Black-throated Green Warbler	22 March	29 December
Cerulean Warbler	19 April	14 November
Yellow-throated Warbler	9 March	20 January
Chestnut-sided Warbler (mountains only)	4 April	18 October
Prairie Warbler	20 March	10 January
Ovenbird	29 March	2 January
Louisiana Waterthrush	12 March	2 October
Kentucky Warbler	5 April	3 November
Hooded Warbler	28 March	28 December
American Redstart	7 April	1 January
Orchard Oriole	13 April	2 January
Summer Tanager	14 April	9 October
Grasshopper Sparrow	1 March	21 January

Speaking of Late Arrivals

The semi-domesticated Black Ducks in City Lake in Rocky Mount puzzle me. Ten young ducks were in the water on 15 August; by 15 September only four could be found. On 15 October two more young birds appeared. And on 5 November two more tiny fledglings were paddling about with their mother.

Eno River State Park near Durham

In mid-November, I joined 25 others for a walk through the park, led by a lovely lady ranger. The park office is at the north end of Cole Mill Road off US 70. An easy access to

(Continued on page 25)

General Field Notes

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Wood Storks over Asheville, N.C.

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At noon on a mild and sunny 2 December 1977, Blue Ridge Parkway Ranger Larry Freeman, who had been stationed in the Everglades for several years, asked if I could identify three large white birds circling over the French Broad River. From the office window they looked like herons, but at his urging, and with binoculars, we saw they had black heads and necks and a black-and-white wing pattern. A quick check of a field guide confirmed them to be three Wood Storks (*Mycteria americana*). The birds leisurely circled and soared downstream.

What is particularly interesting about this observation is that it occurred from the seventh floor headquarters office of the Blue Ridge Parkway in downtown Asheville, N.C. A number of different sightings have been made there including migrating monarch butterflies, American Kestrels, Red-tailed Hawks, Broad-wing Hawks, and assorted warblers—but none quite like this one.

[NOTE: Although Wood Storks have been reported from several places in piedmont North Carolina, the above sighting appears to be the first known from our mountains.—JFP]

Swallows Apparently Taking Prey from the Ground

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WILLIAM BROWN JR.

On 1 May 1978 at 1500, we observed about 300 swallows, mostly Barn Swallows with a lesser number of Tree and Rough-winged Swallows, alternately perching and fluttering over bare agricultural land at the Central Crops Research Station, Clayton, N.C. Some of the birds appeared to be hawking prey in the air, whereas others waddled about pecking at the ground.

Examination of the field revealed a large concentration of small flies. These either crawled over the surface when approached, or less made short, labored flights. The air temperature was in the range of 14 degrees C under an overcast sky. Thus the flies appeared to be partially incapacitated by the low temperature.

Although we were not able to approach near enough to the swallows to confirm that they were feeding on the flies, a few House Sparrows were observed taking the insects. That fact, coupled with the behavior of the swallows, led us to conclude that the flies had attracted the birds. Although the taking of terrestrial prey objects is doubtless exceptional

behavior in swallows, these expert aerialists can, apparently, employ such a strategy profitably when conditions are favorable.

Cerulean Warbler Colony in Graham County, N.C.

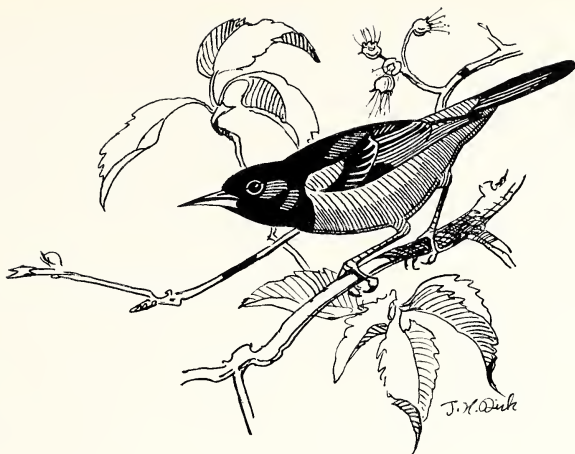
HARRY E. LeGRAND JR.

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While leading a field trip at the Fontana Village, N.C., Carolina Bird Club meeting on 29 April 1978, Bob Lewis, Lisa Lewis, and I stopped our car to listen for birds along NC 28 several miles E of the village. We immediately heard a singing Cerulean Warbler (*Dendroica cerulea*) in a mature hardwood forest alongside the road at 0700. We returned to the Fontana area in the afternoon and heard three more birds at a location approximately 1.5 miles W of the above site, and perhaps 4 miles E of the village. Two of the latter birds were seen to positively confirm the identification, though we know the song well and knew by that alone that the birds were Ceruleans. The warblers were clearly on territory, as they were singing vigorously, even at 1600 in the afternoon.

On 12 June 1978 I returned to the Fontana region to further study the birds. I drove slowly along the highway from 1030 to 1100 listening for Ceruleans, and I heard four groups of two birds, plus a single bird, for a total of nine. Unlike most warblers, Ceruleans apparently tend to breed within ear range of others of their kind, since at four places two males were singing within hearing range of each other. All nine birds were found along a 3-mile stretch of NC 28, approximately midway between Fontana Village and Tuskegee in northern Graham County. The elevation of this colony is approximately 2300 feet, and the habitat consists of mature and somewhat cove-like hardwoods on a steep mountain-side. This habitat is very similar to that at the Wilkes County, N.C., colony discovered by Merrill Lynch, Edmund LeGrand, and me in June 1972 (Chat 37:83-84).

In addition to the Fontana colony, other known and presumably breeding colonies of Ceruleans in North Carolina have been found along the Roanoke River from Halifax to Williamston (Chat 37:83-84; 39:54) in the coastal plain, and in the mountains in northeastern Wilkes County (Chat 37:83-84), southwestern Polk County (Chat 38:98), and Buncombe County near Reynolds Gap (Chat 39:98). These colonies, plus a few other mountain and upper piedmont reports of single birds, clearly show the localized breeding distribution characteristic of this species throughout its range. In summary, the Cerulean Warbler in North Carolina is a rare and local summer resident at the lower elevations (below 2500 feet) in the mountains, south at least to Graham and Polk counties, and also along the Roanoke River in the coastal plain. There seems to be no evidence that the species presently occurs in the piedmont during the summer. Birders should look for Ceruleans in the mountains in mature and somewhat open hardwoods on steep slopes, particularly in the 2000-2500 foot elevation range. I suspect that the Blue Ridge escarpment that overlooks the piedmont may well contain several additional colonies, besides those in Wilkes and Polk counties.



BRIEFS FOR THE FILES

HARRY E. LeGRAND JR.

(All dates 1978 unless otherwise indicated)

COMMON LOON: One individual in winter plumage was seen on four dates between 17 June and 5 August at Beaverdam Reservoir in northern Wake County, N.C., by R.J. Hader.

AUDUBON'S SHEARWATER: One was seen from shore at Atlantic Beach, N.C., on 11 August by Brainard Palmer-Ball.

WILSON'S STORM-PETREL: Perry Nugent saw at least three on 4 June at Huntington Beach State Park, S.C.

DOUBLE-CRESTED CORMORANT: Four were noted on Forest Lake at Fayetteville, N.C., on 21 June by Philip Crutchfield, and one was seen at the nearby Becker Sand and Gravel Company on 18 July by Philip and J.B. Crutchfield. Also, as many as four birds were present in June and July at Beaverdam Reservoir, N.C., fide R.J. Hader.

MAGNIFICENT FRIGATEBIRD: A female or immature was seen in Charleston harbor, S.C., on 11 July by Bill Elliott, and perhaps the same individual was found there by Tom Reaves on 16 July.

LOUISIANA HERON: Rare inland sightings were single birds near Fayetteville, N.C., on 17 and 18 July (Philip and J.B. Crutchfield), and near Townville, S.C., on 27 July (Harry LeGrand).

YELLOW-CROWNED NIGHT-HERON: Royce Hough noted an immature at Winston-Salem, N.C., on 23 July.

WOOD STORK: Six individuals were seen by Daniel Kaplan on 12 July at Sunset Beach, N.C. This location appears to be the approximate northern limit of post-breeding dispersal for the species along the Atlantic coast.

GLOSSY IBIS: This species seldom disperses inland in summer; thus, reports from three localities in North Carolina are of interest. Lou Fink reported one near Rocky Mount on 11 and 15 July; one was seen near Fayetteville on 10 July by Philip Crutchfield, and three there on 25 July; and Jim Pullman noted one near Seaforth on 30 July.

WHITE IBIS: John Fussell observed an "upset" adult at a heronry at Emerald Isle, N.C., on 17 June and 10 July, indicating the possibility of nesting at a locale where previous breeding has not been reported.

AMERICAN FLAMINGO: One was seen on 12 June at Ocracoke Inlet, N.C., by John S. Weske and John H. Buckalew.

COMMON EIDER: A first-year male was still present at the jetty at Cape Lookout, N.C., on 29 June, as noted by Skip Prange.

BLACK SCOTER: Moderate numbers were noted along the coast this summer: 35 were seen near Atlantic Beach, N.C., on 14 June by John Fussell, and 25+ were at North Island, S.C., on 13 July, as noted by Charles Eastman. Other reports were a single bird at Sullivan's Island, S.C., on 12 June (Perry Nugent), and eight at Fort Macon, N.C., late date of 10 August (Brainard Palmer-Ball).

SHARP-SHINNED HAWK: One seen near Fayetteville, N.C., on 14 June by Philip Crutchfield was noteworthy; the species is seldom reported in the coastal plain during the breeding season.

COOPER'S HAWK: Daniel Kaplan saw an immature at Sunset Beach, N.C., on 13 July.

BALD EAGLE: At Beaverdam Reservoir, N.C., R.J. Hader noted two adults and two immatures on 24 May, two adults and one immature on 10 June, and one adult until at least 5 August. An adult was seen at Santee State Park, S.C., on 3 June by Perry Nugent. At Carolina Beach, N.C., Mark Gardner saw an adult on 16 August and an immature on 17 August.

OSPREY: R.J. Hader noted an individual at Beaverdam Reservoir, N.C., on 3 June, 10 June, and 6 July.

AMERICAN KESTREL: A female and a fledgling were seen on 29 June in downtown Raleigh (Fayetteville Street Mall), N.C., by Carl Leibrandt, and a pair was seen regularly in June and July by Zach Bynum in downtown Winston-Salem, N.C. Perry Nugent reported that one was present during the summer in the southern portion of Francis Marion National Forest, S.C., and was last seen on 23 July.

KING RAIL: Two birds, probably a mated pair, were present from 23 May to at least 8 July at Greenview Farm near Raleigh, N.C., as observed by R.J. Hader. Inland reports of this species are becoming very infrequent.

VIRGINIA RAIL: Three were heard at Cedar Island, N.C., on 4 June by John Fussell and Lynne Moseley.

PIPING PLOVER: A very rare inland report was that of a single bird at Beaverdam Reservoir, N.C., on 28 July (Bill and Margaret Wagner) and the following day (R.J. Hader).

BLACK-BELLIED PLOVER: One was noted at Beaverdam Reservoir, N.C., by Johnnie Payne, Bill Wagner, and Margaret Wagner on 27 July.

LONG-BILLED CURLEW: One was seen at Bird Shoal near Beaufort, N.C., on 8 August by Brainard Palmer-Ball, perhaps the same bird that has been there for the past few years.

WILLET: One was a rare inland find at Beaverdam Reservoir, N.C., on 27 July by Johnnie Payne, Bill Wagner, and Margaret Wagner.

STILT SANDPIPER: Harry LeGrand saw two near Townville, S.C., on 27 July, and three were at nearby Clemson on the same date.

SANDERLING: One was a good find in Franklin County, N.C., by Eloise Potter on 1 August.

BLACK-NECKED STILT: Approximately 75 pairs nested successfully at the spoil area in South Carolina just north of Savannah, Ga., as reported by Louise Lacoss and Beany Newhall. At North River marsh near Beaufort, N.C., Jo Anne Powell saw a young bird with adults on 10 July.

AMERICAN AVOCET: Mark Gardner saw three flying down the Cape Fear River near Fort Fisher, N.C., on 16 August, and he saw two birds in that area on the following day.

GREAT BLACK-BACKED GULL: An adult and an immature seen at North Island, S.C., on 13 July by Charles Eastman provided a rare summer record for that state.

- FORSTER'S TERN:** Two were rare inland transients in Franklin County, N.C., on 30 August, as seen by Eloise Potter.
- SOOTY TERN:** The first nest of this species on the Atlantic coast of the United States was discovered by John Fussell, T.L. Quay, and R.J. Hader at Morgan Island, N.C., near Cape Lookout, on 16 June. Further details are planned for publication in a national journal.
- CASPIAN TERN:** Early inland "fall" reports were one seen in Franklin County, N.C., by Eloise Potter on 29 July, and two noted by Bob Lewis at Lake Greenwood, S.C., on 16 July. Mark Gardner saw one near Raleigh, N.C., on 9 May.
- GROUND DOVE:** John Fussell observed one at Atlantic Beach, N.C., on 22 June. The species might be breeding in this area, but positive proof has yet to be reported.
- BLACK-BILLED CUCKOO:** A calling bird seen by Harry LeGrand near Cashiers, N.C., on 1 June was a rare report from the Highlands Plateau.
- SAW-WHET OWL:** John Horn reports a previously unpublished specimen in the Duke University collection. The owl was hit by a car near New Hope Creek in southeastern Orange County, N.C., on 7 January 1970.
- WHIP-POOR-WILL:** Philip Crutchfield noted the species all summer in Cumberland County, N.C., a locality along the poorly defined edge of the breeding range in the state.
- EASTERN PHOEBE:** One was noted near Fayetteville, N.C., on 15 July by Philip Crutchfield. This locality is presumably at the edge of the phoebe's breeding range.
- WILLOW FLYCATCHER:** At Washington Park in Winston-Salem, N.C., two pairs were seen regularly during June and July by Zach Bynum, Ramona Snavelly, and Pat Culbertson. Harry LeGrand counted nine singing males in the French Broad River valley of central Transylvania County, N.C., on 28 May, a record state total.
- LEAST FLYCATCHER:** A very late individual was seen and heard calling near Rolesville, N.C., on 7 June by Mark Gardner.
- BANK SWALLOW:** Perry Nugent noted one or two birds, presumably late migrants, at Santee State Park, S.C., on 3 June.
- CLIFF SWALLOW:** A pair, probably the same as last year, again nested "out of range" at Moore's Landing in Charleston County, S.C., fide Perry Nugent.
- COMMON RAVEN:** The species was again noted this summer at Table Rock State Park, S.C. Harry LeGrand and Paul Hamel observed seven birds, some or all immatures, on 10 June.
- SHORT-BILLED MARSH WREN:** One was heard singing in a damp field near Selica, Transylvania County, N.C., on 28 May by Harry LeGrand. The bird was apparently a late migrant.
- RUBY-CROWNED KINGLET:** Two exceptionally early sightings were single birds noted in Franklin County, N.C., on 29 July by Eloise Potter, and near Kure Beach, N.C., on 17 August by Mark Gardner.
- WORM-EATING WARBLER:** John Fussell reported two individuals near Merrimon, Carteret County, N.C., on 10 June. Much is still to be learned about the distribution of this warbler in the coastal plain.
- BLACK-THROATED GREEN WARBLER:** Paul Hamel and others noted at least 25 birds in parts of Charleston County, S.C., on 19 March 1977, a very early date for such a large number.
- PALM WARBLER:** One was early near New Hope Creek in the Chapel Hill, N.C., area on 24 August, as seen by Johnnie Payne.
- ORCHARD ORIOLE:** An immature male was found singing on territory near Cashiers, N.C., on 1 June by Harry LeGrand. The altitude of 3900 feet may be a high-elevation record for the state.
- NORTHERN ORIOLE:** Harry LeGrand saw a singing male and a nearby female in cen-

tral Transylvania County, N.C., on 28 May. This species is a rare breeder in the southern half of the mountains in that state.

EVENING GROSBEAK: A female was very late at Carol Hamilton's feeder in Chapel Hill, N.C., on 14 June.

HOUSE FINCH: Nesting was again noted in North Carolina in Winston-Salem and Raleigh, and nesting may have occurred in Chapel Hill and Hickory. Ramona Snaveley reported one colony with 12 singing males in Winston-Salem, and another with six singing males. She reports nesting at many sites in the city. At Raleigh, Joshua Lee saw a bird carrying nesting material during the summer to a vine-covered ledge on a building on the N.C. State University campus; a fledgling was seen there in July by Clark Olson. Two nestings were also reported in the Raleigh Rose Garden in July. At Chapel Hill, two males were seen at a feeder on 4 June by Carol Hamilton, and she noted a male there from 9 to 17 June, and a pair from 24 June until 30 July. Garvin and Louise Hughes observed up to three birds at a feeder in Hickory between 17 and 29 June.

RED CROSSBILL: This species was more numerous than usual this summer in the southern mountains of North Carolina. Harry LeGrand noted 18 in several small flocks along the Blue Ridge Parkway in southern Haywood County on 17 June, and four at Highlands on 25 June. At Camp Kanuga near Hendersonville, Jon Stewart and Dan Nedrelo saw three males and a female on 20 and 21 July. LeGrand also heard a bird calling in flight over Table Rock Mountain, S.C., on 9 July.

WHITE-THROATED SPARROW: One remained at a feeder in Raleigh, N.C., until 6 June, fide Carol Hamilton.

BOOK REVIEWS

A GUIDE TO BIRD FINDING EAST OF THE MISSISSIPPI (second edition)

Olin S. Pettingill Jr. 1977. Oxford University Press, 200 Madison Avenue, New York, N.Y. 10016. Illus. by George M. Sutton. 689 p. Index. Hardcover. \$15.95.

A BIRDWATCHER'S GUIDE TO THE EASTERN UNITED STATES

Alice M. Geffen. 1978. Barron's Educational Series, Inc., 113 Crossways Park Drive, Woodbury, N.Y. 11797. Illus. by Peter Hayman. 346 p. Index. Paperback. \$6.95.

THE COMPLETE OUTFITTING & SOURCE BOOK FOR BIRD WATCHING

Michael Scofield. 1978. The Great Outdoors Trading Company, 24759 Shoreline Highway, Marshall, Calif. 94940. 192 p. 8½ x 11 inches. Paperback \$6.95, hardcover \$12.95 (plus 75¢ postage and handling if ordered from publisher).

The word is out that there are more bird watchers than hunters, and publishers are wasting no time in providing handy guides telling us how to practice our hobby. Obviously no author is going to have expert personal knowledge of every aspect of bird study in all parts of the county. A given section of a comprehensive work will be no better than the various sources of information. There will be some unfortunate omissions, some out-of-date material, and some obvious errors. Nevertheless, books such as the ones discussed below can be very helpful.

Pettingill's guide is a revised version of his respected 1951 work. The North and South Carolina chapters provide excellent examples of the variability of the contents. The North Carolina section contains important new material; but unfortunately it also has our Fish Crows still confined to the coastal region, gives directions to the now closed Gaddy's Wild Goose Refuge, fails to mention Fort Macon under the Morehead City paragraph, and does not state that permits are required for visits to Battery Island. The South Carolina section was revised by Dennis M. Forsythe and Sidney A. Gauthreaux Jr., and it greatly benefits

from their personal knowledge of the various places that offer excellent opportunities for bird finding in that state.

Geffen's guide offers few details about the birds that can be expected at the various top birding spots, but it lists many addresses one can write for current information. A number of interesting places, such as Connemara, former home of poet Carl Sandburg, are mentioned even though they are not particularly famous for bird study. There is surprisingly little duplication of material in the Pettingill and Geffen books. If I were planning to do a lot of traveling with bird study as my primary objective, I would want to consult both books. Pettingill has written a bird-finding guide to the western United States, and I assume Geffen will provide a similar book if her eastern one is well received.

Any book that calls itself "complete" immediately arouses the skeptic in me, and Scofield's publication is no exception. This book purports to tell us all about bird watching: history, equipment, accessories, publications, clubs and organizations, bird sites, and tours and expeditions. While it does mention all these aspects of bird watching, the treatment is often less than complete. For example, the section on zoos and natural history museums does not mention North Carolina's zoological park at Asheboro or the State Museum of Natural History in Raleigh. The section on bird clubs lists CBC under the North Carolina heading but omits local Audubon or bird club chapters. Under the South Carolina heading, there is no mention of CBC or Charleston Natural History Society, but the Columbia and Hilton Head Audubon chapters are listed. Books and periodicals are presented without much guidance as to their relative merits; however, the reader is referred to an article in the October 1976 issue of *American Birds* on "Choosing a Basic Ornithological Library."

Fortunately the sections on equipment (binoculars, telescopes, tripods, cameras, telephoto lenses, and tape recorders and accessories) are fairly comprehensive. Introductory articles give good advice on the selection, use, and care of each type of equipment. The binocular buying guide is one of the best articles in the book. It includes an explanation of the construction of the various types of binoculars, a discussion of the problems of using a binocular if you must wear eyeglasses, and a practical method for testing the quality of a binocular before buying it (or checking the condition of one you already own). A couple of tips on using binoculars in the field would be a welcome addition to this important article. (First spot the bird, and then raise the glass without taking your eyes off the bird; if you miss, lower the glass and try again. Steady the glass by bracing upper arms against the chest.)

Prices are not given for the books, periodicals, and equipment. The publisher states that a current price list is available upon request to anyone who sends his name, address, and two first-class postage stamps. An appendix also gives names and addresses of equipment manufacturers.

Although Scofield's outfitting and source book is far from complete, it does give the bird watcher a good idea of the products and services that are available to aid him in the enjoyment of his hobby. One useful tip may be worth far more than the modest price of the book.—EFP

CBC Roundtable

(Continued from page 18)

hiking trails and the Eno River is clearly marked on the west side of Cole Mill Road. Our 2-mile walk started at Spranger Road and Howe Road; we hiked to an abandoned quarry, the foundation of a 200-year-old mill (complete with raceway), and the cemetery of the Cade family. Cade *pere* sired nine daughters, all of whom married millers!

After the dry spell, the river was extremely low. Because it fluctuates so violently, beavers do not build dams here; they dig holes in the banks instead. Eno River State Park is worth a visit.—LCF



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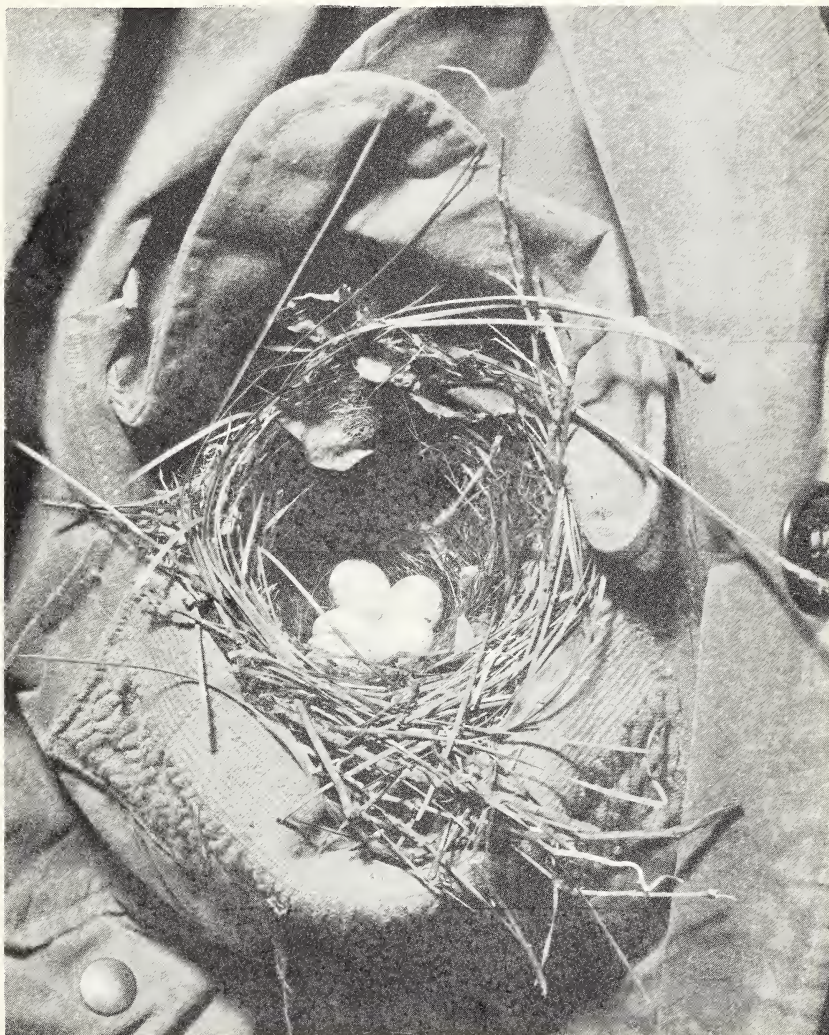
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OUR COVER—Jack Dermid photographed the nest and eggs of a Carolina Wren found in the pocket of a hunting coat left hanging in a garage in Nash County, N.C. (Courtesy N.C. Wildlife Resources Commission)

CLUTCH SIZE AND ONSET OF LAYING IN BACHMAN'S WARBLER

JAY SHULER

Arthur T. Wayne had more experience with Bachman's Warbler (*Vermivora bachmanii*) on its breeding ground than anyone else. Had he been primarily an ornithologist rather than a collector, he might have left us a detailed life history of the bird. As it is, his published writings on Bachman's Warbler life history (Wayne 1907, 1910) are sketchy, and his unpublished notes and records (now deposited at the Charleston Museum) were intended for his own use and can confuse others.

I worked through this unpublished material and concluded that Wayne found 32 Bachman's Warbler nests, all in I'On Swamp, about 12 miles NE of his Mt. Pleasant, S.C., home (Shuler 1977). Paul B. Hamel, Robert G. Hooper, and Lewis M. Wright (1976) wrote that Wayne found no fewer than 25 nests; and Hooper and Hamel (1977) later maintained they know of 35 nests that Wayne found. They offered to provide "A List of the Known Nests of Bachman's Warbler" to those requesting it. I believe that Nests 18 and 21 on that list are the same nest, that data for Nest 20 are insufficient to establish that it is not duplicated elsewhere, and that Nests 27 and 29 are the same one. I do not think that Hooper and Hamel can demonstrate without ambiguity that Wayne found more than 32 nests.

For nests with sets of eggs collected for sale, Wayne's data are more straightforward than for observations unrelated to specimens. Clutch size and the approximate date of the onset of laying (the day the first egg in a clutch was laid) may be calculated from 24 of these.

Four nests contained 3 eggs (two with clutches so fresh as to raise doubt they were complete); 12 held 4 eggs (three sets fresh); and 8 contained 5 eggs (three sets fresh). The average of the 24 clutches is 4.16.

The incubation period for Bachman's Warbler is unknown—a statement that applies to some of the more abundant warbler species as well. Many of the earlier records, including some listed by Bent (1953), may not have been determined by methods presently accepted. Nice (1953) questioned the accuracy of any incubation period of 10 days or less, and established a working definition of the incubation period as the elapsed time between the laying of the last egg in a clutch and the hatching of that egg. Many modern workers use the Nice definition in their studies.

Edgar M. Reilly Jr. (1968) listed periods for warblers that range from 11 to 13 days for the Common Yellowthroat (*Geothlypis trichas*) to 14 to 15 days for the Kirtland's Warbler (*Dendroica kirtlandii*). Warren M. Pulich (1976) in two nests of the Golden-cheeked Warbler (*D. chrysoparia*) determined periods of 11-plus and 12 days. To assume a period of 12 days for Bachman's Warbler seems to be in line with known periods for other small warblers.

Wayne (unpub. records) expressed a judgment, usually qualitative, as to the degree of incubation in each set of eggs he collected (Table 1). For some clutches he offered both qualitative and quantitative assessments. By applying the assumed incubation period of 12 days, Wayne's judgments may be translated into the number of days that incubation probably had progressed in each case (Table 1) and thus may be used for calculating the approximate dates for the onset of laying (Table 2).

For example, a nest Wayne (1910) found on 3 April 1907 held 5 eggs with large embryos. In Table 1 "large embryos" is translated to 8 days of incubation, which takes the nest back to 26 March. Another 4 days are allowed for the laying of all but the first egg, which brings the nest to 22 March, the date on which the first egg probably appeared. Similar calculations for the remaining 23 nests serve for the construction of Table 2.

A final element of uncertainty should be considered. Incubation is assumed to begin with the laying of the last egg, but Pulich (1976) found that incubation for the Golden-cheeked Warbler began with the second egg in clutches of 3, and probably with the

Table 1. Estimated degrees of incubation in 24 Bachman's Warbler clutches from I'On Swamp (1906-1919).

<i>Wayne's description</i>	<i>Estimated days incubation</i>	<i>Number clutches</i>
Fresh	0	6
First egg laid on March 27	0	1
One day	1	1
Two days	2	1
Very slightly incubated	2	2
Slightly incubated	3	2
Very small embryos	3	1
Four days	4	1
Small embryos	4	1
Five or six days	6	1
Large embryos	8	1
Very large embryos	9	2
Almost ready to hatch	10	1
Nearly ready to hatch	10	1
Ready to hatch	10	1
Pipped	11	1

penultimate egg in larger clutches. If this is true for Bachman's Warbler, the calculated time between the laying of the first egg and the date of collection should be shortened by 1 day in some instances. Despite this and other uncertainties, I believe that Table 2 demonstrates within reasonable bounds the duration and peak of the onset of laying of Bachman's Warbler in I'On Swamp. Data more accurate than those Wayne left us are unlikely to become available in the future; so we must learn whatever we can from them.

The earliest date estimated for the onset of laying is 18 March; the latest is 24 April. By 31 March more than half (14) of the 24 clutches were under way. The clutch apparently begun on 24 April may have been an attempt at renesting. Wayne (unpub. records) wrote, "Shot male to this pair on April 6. Female obtained another mate shortly after."

Clearly, the nesting cycle of Bachman's Warbler begins and ends early, perhaps earlier than that of any other passerine in the area. Wayne (unpub. records) saw and heard three males singing in I'On Swamp on 14 March 1908. He speculated (1910) that Bachman's Warbler may arrive on the breeding ground as early as 28 February. He allowed 2 weeks for nest building, which is, perhaps, excessive.

Might Bachman's Warbler have arrived and nested even earlier than Wayne thought? Not likely.

In addition to an abiding and passionate interest in ornithology, Wayne depended upon the sale of ornithological specimens for a livelihood. Nests and eggs of common birds brought him a few dollars each, but a nest with a set of eggs of Bachman's Warbler may have fetched him as much as \$150 (letter, Charleston Museum). He was strongly motivated to determine exactly the season when such precious specimens could be collected.

ACKNOWLEDGMENTS

I thank E. Burnham Chamberlain, John V. Dennis, Paul B. Hamel, Julian R. Harrison, Paul A. Opler, and Jay Sheppard for reading and commenting upon an earlier draft of this article. The Charleston Museum permitted access to Wayne's unpublished papers.

Table 2. Clutch size and estimated onset of laying in Bachman's Warbler nests from I'On Swamp (1906-1919).

<i>Estimated date for first egg</i>	<i>Number eggs in clutch</i>	<i>Estimated date for first egg</i>	<i>Number eggs in clutch</i>
18 March	5	1 April	4
18 March	5	4 April	4
22 March	5	5 April	4
23 March	4	6 April	5
26 March	4	7 April	3
26 March	5	11 April	4
27 March	4	13 April	5
28 March	3	14 April	3
28 March	4	16 April	5
28 March	4	24 April	4
29 March	4		
30 March	4		
30 March	5		
31 March	3		

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Roundtable

... with Louis C. Fink

Bird Finding on Goose Creek

Goose Creek State Park is in Beaufort County on the Pamlico River and consists of 1300 acres: sandy soil with a cover of oaks and pines, all festooned with Spanish moss. Picnic tables and fresh water are provided, but little other development has taken place. The park is about 10 miles E of Washington on US 264; turn right on SR 1334 and go 2 miles to the park entrance.

I made a short visit on 16 January. Common Flickers were busy, and Carolina Chickadees were calling. Outside the park, Turkey Vultures soared, and Eastern Bluebirds, Loggerhead Shrikes, and American Kestrels were numerous on telephone wires. On the river, framed by moss, were 50 American Coots and a dozen Ring-billed Gulls. I did not have time to hike the 2.6-mile nature trail, which looked more than inviting.

To locate Goose Creek and other State Parks, write the Public Affairs Office, Department of Transportation, Box 25201, Raleigh, N.C. 27611, and ask for the Transportation Map. It's free.—LCF

Odd Behavior of a Rock Dove

A Rock Dove was seen sitting on Forest Lake in Fayetteville, N.C., in the manner of a duck, during the late morning of 30 August 1978. The weather was fair. The bird was sitting upright in the water in an alert position, and it did not appear injured. After several minutes, the bird used a strong down stroke of its wings into the water. This cleared the body of the bird from the water, and it flew away.—PHILIP J. CRUTCHFIELD, 901 Montclair Road, Fayetteville, N.C. 28304.

Breaking up a Blackbird Roost

I have observed winter blackbird roosts in New Jersey, Georgia, and North Carolina (at a dozen locations) and read about efforts to disperse them. Until now, I have seen only one roost dispersed; that included about 25,000 birds in a bamboo patch at the East Lake Country Club in Atlanta. The birds disappeared overnight, and the groundskeeper claimed his secret was 100 pounds of mothballs placed on the ground under the bamboo on a hot and sunny day. I have no proof that the fumes drove the blackbirds away, but they did disappear suddenly.

Other efforts I have seen, such as lights at night, have failed.

The roost two blocks from my home in Rocky Mount grew to include an estimated 200,000 birds (or more) and was an undoubted nuisance to people living close to the roost. Several residents discharged guns at sundown with no effect.

On 8, 9, 10, and 11 January 1979, the City of Rocky Mount sent workers to discharge aerial bombs—bright flares and loud explosions—for about an hour each evening. For the first three nights, the birds flew up from their trees, wheeled about, and promptly settled down at dark. The fourth night of noise and light proved too much, and the birds left. Not a single bird has returned to the roost.

The birds are still in the area, their numbers undiminished. I see them by the tens of thousands every morning and night. I judge the new roost to be within a mile or so, but I cannot locate it.—LCF

Can You Top This?

Listed below are most of the species of small land birds that migrate regularly through North Carolina. Following each bird are the earliest and latest dates presently known for its migration in spring and in fall. An asterisk, (*) following the bird's name means that the species breeds in the mountains and therefore the migration dates apply only for the piedmont and coastal plain.

Western Kingbird	24 March-12 June	15 August-30 December
Yellow-bellied Flycatcher	26 April-29 May	11 August-9 October
Bank Swallow (rare nester)	27 March-28 May	6 July-2 October
Swainson's Thrush	15 March-30 May	3 September-10 February
Gray-cheeked Thrush	9 March-30 May	11 September-28 December
Veery*	17 April-15 May	25 August-26 September
Philadelphia Vireo	22 April-16 May	15 August-13 October
Warbling Vireo*	22 March-25 May	8 July-19 October
Golden-winged Warbler*	24 April-6 May	15 August-2 October
Blue-winged Warbler*	14 April-5 May	16 August-24 September
Tennessee Warbler	7 April-13 May	27 August-29 October
Nashville Warbler	25 March-12 May	9 September-27 November
Magnolia Warbler	25 April-30 May	29 July-17 October
Black-th. Blue Warbler*	7 April-31 May	4 September-31 December
Blackburnian Warbler*	19 April-30 May	12 August-26 October
Chestnut-sided Warbler*	19 April-30 May	17 August-20 October
Bay-breasted Warbler	23 April-17 May	8 September-29 November
Blackpoll Warbler	16 April-3 June	28 August-1 December
Northern Waterthrush	27 March-30 May	17 July-12 October
Connecticut Warbler	26 April-30 May	18 August-31 December
Mourning Warbler	30 April-26 May	31 July-9 October
Wilson's Warbler	20 April-27 May	1 September-2 November
Canada Warbler*	20 April-1 June	22 August-12 October
Clay-colored Sparrow	1 May-9 May	19 September-14 November

SIALIA, a New Journal Strictly for the Bluebirds

The North American Bluebird Society was formed in March of 1978 to promote the welfare of the Eastern Bluebird, Western Bluebird, and Mountain Bluebird. Among the charter members are Rena Bishop, Mrs. W. Roy Bean, Jack Finch, Bonnie L. Green, Beth Ann Little, Robert A. Mayer II, Betty H. McIlwain, Mrs. Clinton McKay, Clay E. Murray, Margery Plymire, Robert C. Ruiz, and H. Edmund Stiles of North Carolina and Bowater Carolina Corporation, John J. Brewington, Joseph S. Byrd, Ralph B. Fulmer, William M. Gignilliat, Patricia A. Gowaty, Suzanne S. Miller, Darrell J. Spires, George E. Stone, and Nelson W. Taylor of South Carolina.

In the winter quarter of 1979 the Society published the first issue of its journal, *Sialia*, which is edited by Jon Boone, 9505 Good Lion Road, Columbia, Maryland 21045. One article offers an analysis of bluebird abundance and population trends while another examines reclaimed surface mines as potential nesting sites for bluebirds.

A regular membership in the North American Bluebird Society is \$10 per year. Students (under 21) and seniors (over 60) pay \$7.50. Group membership rates are available upon request. The Society's address is Box 6295, Silver Spring, Maryland 20906.

An Albinistic Red-tailed Hawk near Greenwood, S.C.

An albinistic Red-tailed Hawk has been residing near Greenwood, S.C., for at least 3 years. It appears to be mated with a Red-tailed Hawk having normal coloration. The white buteo was brought to my attention by Billy Ray Goff of Greenwood, and I saw it at fairly close range on 14 March 1979. Although not a pure albino, the bird is almost completely white except for some dark tips on the primaries. Apparently white plumage

has not deterred this bird from leading a normal existence. Several residents from Greenwood have kept an eye on this unusual hawk to protect it from misguided hunters. So far, efforts to obtain close-up photographs of the bird have been unsuccessful.—JOHN EMMETT CELY, Coordinator, Non-game & Endangered Species Section, South Carolina Wildlife & Marine Resources Department, P.O. Box 167, Columbia, S.C. 29202.

First Issue of BRIMLEYANA Now Available

The first issue of *Brimleyana*, the scientific journal of the North Carolina State Museum, was published in March 1979. Edited by John E. Cooper, it contains 14 papers on the zoology and ecology of the southeastern United States.

Brimleyana is named in honor of the late H.H. and C.S. Brimley, who collaborated with T. Gilbert Pearson in the writing of *Birds of North Carolina*. H.H. Brimley was the first director of the N.C. State Museum, and C.S. Brimley was an entomologist with the N.C. Department of Agriculture. Dr. Cooper contributed a brief biography, "The Brothers Brimley: North Carolina Naturalists," as the opening paper of the new journal. Another paper of particular interest to CBC members is Daniel McKinley's "Historical Review of the Carolina Parakeet in the Carolinas."

Annual subscriptions are available for \$7.50 from the N.C. State Museum, P.O. Box 27647, Raleigh, N.C. 27611. Single copies may be ordered or purchased at the museum book shop for \$4.50. *Brimleyana* is expected to appear semiannually, and each issue probably will contain about 150 pages.

North Carolina Natural History Society

Joe Grenier has been elected president of the North Carolina Natural History Society, which was formed recently in association with the North Carolina State Museum. This organization offers members an opportunity to explore their natural heritage through special courses, workshops, and excursions. Other benefits include an annual subscription to the quarterly newsletter *Whalebones* and a discount of 15% at the museum's book and gift shop. Charter memberships will be open until 30 June 1980. Memberships are \$15 for an individual and \$25 for a family with other classes (\$100 up) for those who wish to offer greater financial support. The Society is a non-profit organization, and all memberships are tax deductible. Make checks payable to the Society and mail to Treasurer, North Carolina Natural History Society, P.O. Box 27647, Raleigh, N.C. 27611.

The North Carolina Natural History Society will support Representative Wilma Woodard (R-Wake) in her efforts to obtain for the State Museum and the Hampton Museum the kind of financial support they deserve. On 29 March 1979 she filed House Bill 953, which was the first bill ever introduced to increase the operational budgets of these two natural history museums. Expressing appreciation for Representative Woodard's action, John B. Funderburg, director of the State Museum, said, "The stronger we make Wilma's position in the General Assembly, the more effective she can be in helping us achieve our goals."

General Field Notes

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Spring Migrant Shorebirds in Watauga County, N.C.

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31 October 1978

It is not unusual to find shorebirds inland in North Carolina in the fall and spring. A number of observations have been made and published (Chat 32:102, 40:96, 33:24-25, 38:39-40). Few reports, however, have come from the mountains of North Carolina.

Price Lake is located approximately 3.5 miles W of Blowing Rock, N.C., near mile marker 297 on the Blue Ridge Parkway. The lake is approximately 28 acres in size. The water level in the lake was lowered during the winter months of 1977-1978 so cracks in the dam could be repaired. Lowering of the water level exposed a mudflat, approximately 7 acres in size, which attracted shorebirds during April and May of 1978.

The table below lists the first and last sighting of each species seen, the maximum number of individuals present at one sighting, and the date of that sighting.

<i>Species</i>	<i>Extreme dates</i>	<i>Peak no.</i>	<i>Date of peak</i>
Semipalmated Plover	30 April-20 May	25+	9 May
Spotted Sandpiper	16 April-23 May	20	7 May
Solitary Sandpiper	24 April-22 May	10	7 May
Greater Yellowlegs	24 April-18 May	8	29 April
Lesser Yellowlegs	24 April-9 May	8	24 April
White-rumped Sandpiper	2 May-9 May	12	2 May
Least Sandpiper	16 April-23 May	40+	9 May
Short-billed Dowitcher	18 May	4	18 May
Semipalmated Sandpiper	5 May-18 May	7	9 May

All observations were made with the aid of 7 x 35 binoculars and a spotting scope with a 20-45X zoom lens. The mudflat at Price Lake was checked almost every day during April and the first 3 weeks of May.

Ruff at Huntington Beach, S.C.

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4 May 1978

About 1500 on 16 April 1978, my wife Lisa and I saw two Ruffs (*Philomachus pugnax*) at Huntington Beach State Park, Georgetown County, S.C.

On the main freshwater impoundment, along the dike-roadway, was a barely submerged mud-bar about 7 m (23 feet) long. Resting here were several Ring-billed Gulls (*Larus delawarensis*), three American Coots (*Fulica americana*), a Double-crested

Cormorant (*Phalacrocorax auritus*), and the two shorebirds. The birds were roughly 50 m (150 feet) SW of us, so that, as the sky was cloudless, it was necessary to look in the direction of the sun. Fortunately, the sun was still rather high in the sky.

We observed two rather large, husky-looking shorebirds. By comparing them to the other nearby birds, I judged them to be about the size of Greater Yellowlegs (*Tringa melanoleuca*). The bills were similar to those of Lesser Yellowlegs (*T. flavipes*): straight, slender, and longer than the head. Indeed, relative to the head the bills were intermediate in length between those of the two yellowlegs. Peterson's sketch of the Ruff on Plate 25 of his *Field Guide to the Birds* is an excellent likeness of the birds, as far as the shape and bill-length are concerned. (We did not have any field guides with us at the time, however.) The bill color of both birds was gray or bluish-gray.

Just from the "gestalt" alone, then, we were sure that this was a species we had never seen before. We quickly considered all of the commonly occurring species and eliminated them as possibilities. The deciding factor was the plumage of the birds. The back of one bird looked dark gray; but because of the relatively poor lighting, it is hard to say with certainty what the color was. White feather edgings on the back feathers were very noticeable. The face was browner than the back and very dull looking—no eye ring or eye line. The breast of this bird was basically white, but with numerous obscure gray streakings. The belly and undertail coverts were white. As the bird walked around the light shone on its legs from various angles. The leg color, under all these different views, was best described as "dark", i.e., gray or possibly green, but certainly not yellow, orange, or red.

The second bird exhibited the same back and head plumage and the same leg color. But starting right below the throat and extending two-thirds of the way to the legs, the breast feathers were a rusty-red color, redder and darker than the plumage of a Short-billed Dowitcher (*Limnodromus griseus*). This red color was not uniform, however: it was made patchy looking by some randomly placed white feathers, so that the bird appeared to be in molt. This bird did not walk around, so we did not have the benefit of different angles or views. Neither bird ever lifted its wings in our presence.

All of the standard field guides point out the great degree of variability in the plumage and size of the Ruff. Most books say that the back plumage is brown; however, the depiction of back color on Plate 31 of Pough's *Audubon Water Bird Guide* for the fall plumage fits our birds perfectly. Also, the color and length of bill that we observed are depicted well on page 173 of the *Book of British Birds*. According to Wentworth and Kibbe (Kingbird 23:116), bill and leg color are thought to change with age. The bill changes from lead-gray to red and the legs from greenish-gray to orange or red. In winter plumage, "the feathers of the upper parts are various browns, ranging from dark brown to brownish-grey. These feathers have prominent pale margins, creating a scalloped effect." The male is, of course, much larger than the female, up to 30 cm (12 inches) in length. The bill of the male is also longer than that of the female, up to 38 mm (1.5 inches). Males are in breeding plumage from mid-April to mid-June. There is little doubt, then, that the birds we saw were young male Ruffs.

This appears to be the second record of this Eurasian bird in South Carolina. According to Burton, writing in the supplement to the 1970 edition of *South Carolina Bird Life*, the first record occurred on 22 January 1961 at the Savannah National Wildlife Refuge (Denton, Harrington, Mellinger, and Tomkins). See also the article in *The Chat* (25:33). Recent records from nearby states include the following: in North Carolina, 29 July 1962 at Beaufort (Audubon Field Notes 16:466), 14 July 1966 at Bodie Island (Chat 30:109), 21-25 May 1973 at Pea Island (American Birds 27:759); in Georgia, 11 July 1971 at Atlanta (American Birds 26:47); in Virginia, 29 December 1966 near Norfolk (American Birds 21:402); in Florida, 7 April 1974 at Rockledge and 6 May 1974 at Merritt Island, third and fourth state spring records (American Birds 28:792), 27 March 1975 at Merritt Island (American Birds 29:680). Though still very rare, the species seems to occur with greater frequency in the northeastern United States than in the southern Atlantic Coast states.

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A Report on an Alder Flycatcher Colony at Roan Mountain with Comments on the Status of the Species in the Southern Appalachians

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Received 5 October 1978

On 13 June 1978, I saw a small brownish flycatcher with wingbars on the North Carolina side of the Appalachian Trail at Jane Bald, 2 miles E of Roan Mountain, Mitchell County. Because the bird was singing *fee-bee-o*, I identified it as an Alder Flycatcher (*Empidonax alnorum*) despite the seemingly unusual location—the dry shrubby edge of a grassy bald at 5600 feet in elevation. Actually though, mountain alder (*Ahus crispa*) was the most prominent shrub.

After hearing another Alder Flycatcher one-half mile farther E on Grassy Ridge Bald, I met Ed Schell of the Tennessee Ornithological Society (TOS) and pointed this bird out to him. He mentioned that birders from New England had reported an Alder Flycatcher there in 1977. Immediately upon leaving Mr. Schell, I heard a third Alder Flycatcher. Like the second bird, it was on the Tennessee side of Grassy Ridge Bald. Returning the next day, I found a fourth bird, this one on the North Carolina side at 6000 feet in elevation. The original bird was found again at Jane Bald. Later in the summer Mr. Schell told me that many TOS members had gone to see the Alder Flycatchers and that seven singing males as well as a female and a fledgling were found along this short stretch of the Appalachian Trail. This first nesting record of the Alder Flycatcher in Tennessee is being written up for *The Migrant*.

After I told Harry LeGrand about these birds, he went to similar habitat (scattered deciduous saplings and small spruce trees) at Graveyard Fields, Haywood County, N.C., on 17 June 1978 and found an Alder Flycatcher. On 23 July 1978 he returned and found two Alder Flycatchers, one singing and one calling *pip*. This location at 5800 feet is where Joshua Lee, Walter Holland, and others reported a bird on 22 May 1976 (Chat 40:103).

There are only a few other reports of Alder Flycatchers in the southern Appalachians. Schell (pers. com.) found one at Mount Rogers, Virginia, several years ago, and there is a report of one at 5100 feet in southwestern Virginia in 1974 (Am. Birds 28:904). Harry LeGrand and I found one singing in a small bog at 3500 feet in Price Park near Blowing Rock, N.C., on 29 May 1972 (Chat 36:114). We also found a non-singing *Empidonax* flycatcher in the same territory that summer. In 1976 George Hall wrote in *American Birds* (30:956) that Alder Flycatchers were dwindling in numbers in West Virginia and were confined to a few high mountain bogs. The 1977 report for the Appalachian Region (Am.

Birds 31:1140) merely mentioned Alder Flycatchers nesting in Westmoreland and Butler Counties, Pennsylvania.

Perhaps additional field work on high balds will clarify the nesting status of Alder Flycatchers in the southern Appalachians.

Ruby-crowned Kinglet Seen in Late July in Franklin County, N.C.

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31 July 1978

While bird watching at Zane's Mountain near Bunn in Franklin County, N.C., on 29 July 1978, I saw a Ruby-crowned Kinglet (*Regulus calendula*) being chased by a male Common Yellowthroat (*Geothlypis trichas*). I had good views of the kinglet three different times as it perched briefly in a thicket of shrubs and saplings beside a stream. The kinglet's small size, small bill, greenish coloration, and prominent wing bars were obvious field marks, but the eye ring was not distinct. All doubt about the identity of the bird was removed when the Ruby-crowned Kinglet scolded the warbler and then gave a series of typical call notes.

Zane's Mountain is a prominent hill beside Crooked Creek on SR 1731 just east of Bunn. Within a relatively small area there are recently cutover woodlands, pine woods, upland hardwoods, and fairly extensive floodplain hardwoods. Zane's Mountain is one of the best places I have found in Franklin County for fall migrant passerines.

The earliest published fall arrival date for the Ruby-crowned Kinglet in North Carolina is 19 August 1973 when Kitty Kosh (Chat 38:28) saw one at Wilmington. However, Barbara Lee of Raleigh, Ben Saunders of Asheville, and Mr. and Mrs. W.H. Wagner of Chapel Hill have told me about seeing Ruby-crowned Kinglets in the mountains "in summer" or "during July." They did not mention any evidence of breeding. Although the Golden-crowned Kinglet (*R. satrapa*) nests regularly in the southern Appalachians, I am not aware of a published nesting record for the Ruby-crowned Kinglet in the Carolinas or Tennessee. Apparently a few kinglets migrate southward much earlier than generally expected.

BRIEFS FOR THE FILES

HARRY E. LeGRAND JR.

(All dates 1978 unless otherwise indicated)

COMMON LOON: Merrill Lynch counted 108 birds at Roanoke Rapids Lake, N.C., on 8 November, an excellent inland total. One all summer at Beaverdam Reservoir in northern Wake County, N.C., as reported by Clark Olson, was noteworthy, as were four at Parker Creek impoundment in Chatham County, N.C., as seen by Jim Pullman and Elizabeth Teulings.

CORY'S SHEARWATER: Twenty were seen off Charleston, S.C., on 4 August by Sidney Gauthreaux and Harry LeGrand. The peak count in North Carolina was 152 off Hatteras Inlet on 8 October, as reported by Paul DuMont. Six seen by Dave Lee on 14 November off Oregon Inlet, N.C., were rather late.

GREATER SHEARWATER: One was noted on 4 August off Charleston by Sidney Gauthreaux and Harry LeGrand. A good count of 42 was made off of Hatteras, N.C., on 8 October by Paul DuMont et al.; also noteworthy were 16 late individuals out of Oregon Inlet on 14 November (Dave Lee).

AUDUBON'S SHEARWATER: Sidney Gauthreaux and Harry LeGrand observed four off Charleston on 4 August. An outstanding total of 204 birds was noted by Paul DuMont et. al. off Hatteras on 8 October.

WHITE PELICAN: A very rare North Carolina record was an individual seen at Bird Shoal near Beaufort on 8 October by John Fussell and David Barnes.

GREAT CORMORANT: As many as two were seen regularly at Wrightsville Beach, N.C., from early September into December, as observed by Robert Needham, George Bond, James Parnell, et al.

DOUBLE-CRESTED CORMORANT: Jim Mulholland noted single birds at Lake Wheeler near Raleigh, N.C., on 9, 26, and 28 October; and M.E. Whitfield and T. Playforth saw one on the Cape Fear River near Fayetteville, N.C., on 8 November.

GREEN HERON: Clyde Smith found a late individual at Clemmons, N.C., on 4 November.

CATTLE EGRET: Ten birds were late at Harlowe, N.C., on 3 December, as reported by John Fussell.

LOUISIANA HERON: Singles were rare inland visitors at Clemson, S.C., on 10 September (Sidney Gauthreaux, Harry LeGrand); at Beaverdam Reservoir on 27 August (Jim Pullman, Elizabeth Teulings); and at Fayetteville on 6 October (P. J. Crutchfield).

BLACK-CROWNED NIGHT-HERON: A rare summer record was an apparently uninjured bird captured on a street corner in Southern Pines, N.C., on 24 July by Tom Howard. It was released at a nearby lake.

LEAST BITTERN: Breeding near Southern Pines is indicated by the presence of two individuals seen at Johnson's Mill Pond by Tom Howard and Elliott Horner on 2 June.

GLOSSY IBIS: An adult on 14 August and an immature on 17 August near Fayetteville, as reported by P.J. Crutchfield, were very rare inland visitors.

WHITE IBIS: Noteworthy western North Carolina sightings were two immatures photographed by Robert Ruiz on 15 August at Black Mountain, an immature seen near Morganton on 1 August by William A. Kirksey, and three seen by the latter observer at Lake James on 18 August 1977.

WHISTLING SWAN: Two immatures at Pea Island, N.C., were early migrants (or summer stragglers) on 19 and 21 August, as noted by John Bazuin.

BRANT: Brian Keelan observed an out-of-season individual at Pea Island on 19 August.

- SNOW GOOSE:** A blue-phase bird was a good find near Walterboro, S.C., by Mark Hickman on 22 October.
- GREATER SCAUP:** One seen near Southern Pines on 22 March by J.H. Carter III was rare for that area.
- LESSER SCAUP:** J.H. Carter III noted a heavy influx near Southern Pines on 5 March, with flocks of 170, 107, and 69 counted on lakes in the area. An excellent inland total was the approximately 1000 birds on Roanoke Rapids Lake on 8 November, as reported by Merrill Lynch.
- BLACK SCOTER:** On 10 September Bob Holmes found a dead immature at Fort Macon, N.C., and saw another immature, perhaps flightless, waddling from a beach to the water in the sound behind the fort. Several adults in the vicinity, in addition to the immatures, have led the observer to speculate that breeding may have occurred in the area.
- RUDDY DUCK:** A female seen by Tom Howard was very early at Lake Surf, near Vass, N.C., on 5 and 15 September.
- COMMON MERGANSER:** Noteworthy finds for North Carolina were three at Thagard's Lake near Southern Pines on 5 March (J.H. Carter III), a very early individual at Parker Creek impoundment in Chatham County on 29 October (Dennis Alwon, Barbara Roth), and a male at Fort Fisher on 12 November in a flock of Red-breasted Mergansers (Ricky Davis).
- MISSISSIPPI KITE:** A very rare piedmont sighting was that of two immatures harassing a crow at Nash Farms in Franklin County, N.C., on 14 September, as noted by Eloise Potter. An adult was carefully observed by Ron Naveen on the extremely late date of 11 November near Dillon, S.C.
- GOSHAWK:** A rare North Carolina report was an immature observed by Ricky Davis at Fort Fisher on 30 September. The hawk had a conspicuous eye stripe and a very large size, and it was also seen swooping at a Yellow-crowned Night Heron in a dead tree.
- BROAD-WINGED HAWK:** Ann Brice and Gary McAlister noted a group of hawks soaring at Ocracoke Island, N.C., on 25 May. Two were definitely this species, and perhaps all were. Outer Banks records are quite unusual.
- GOLDEN EAGLE:** An adult was rare and early on 7 September approximately 4.5 miles NE of Moore's Landing in Charleston County, S.C. (John B. Andre). Other noteworthy records, all of single immature birds, were at Clemson, S.C., on 1 November (Harry LeGrand), at Lake Mattamuskeet, N.C., on 12 November with one or two Bald Eagles (Kevin Hints), and near McClellanville, S.C., on 11 December (Jay Shuler).
- BALD EAGLE:** North Carolina reports of this species were one to two present at least through 8 October at Beaverdam Reservoir (Clark Olson, Dennis Alwon), an immature near Harrisburg on 4 September (Harry LeGrand), an immature on 6 September at the Tar River Reservoir in Nash County (Lou Fink), one of unspecified age near Morganton on 13 September (Vernon Craig, John Abernethy Jr.), an immature at Harkers Island on 16 October (Skip Prange), and an immature at Raleigh on 29 October (Gail Whitehurst). In South Carolina four adults and an immature were noted at Bear Island on 29 October (Charleston Natural History Society), and an immature was seen at the Savannah spoil area on 20 November (Jim Orgain). Readers should note the high proportion of immatures of both species of eagles and the peak of the fall migration, particularly inland: Golden Eagles tend to peak in November, whereas Balds are seen most frequently in September.
- PEREGRINE FALCON:** One was rare and surprisingly early at Beaverdam Reservoir on 27 August, as seen by Jay, Eric, and Lois Garner and by Daniel and Ellen Kaplan. John Fussell reported that seven sightings were made in the Morehead City, N.C., area this fall (17 September to 7 December); the peak count was three on 4 October, seen by Skip Prange on Core Banks.

- MERLIN:** Jim Mulholland observed a male flying over Lake Wheeler near Raleigh on 10 October.
- SANDHILL CRANE:** One was seen at Johns Island, S.C., on 29 October by Ted Beckett and Stan Langston, and four were seen flying over I'On Swamp near Charleston on 2 December by Jay Shuler.
- PURPLE GALLINULE:** Jim Orgain observed a very late bird at the Savannah National Wildlife Refuge in South Carolina on 20 November.
- AMERICAN COOT:** At least 400 at the Tar River Reservoir on 25 November, as reported by Lou Fink, was a locally high number.
- PIPING PLOVER:** One was seen at Beaverdam Reservoir by Clark Olson on 13 August, presumably the same individual noted there in late July.
- WILSON'S PLOVER:** An individual was late near Beaufort, N.C., on 3 November, seen by John Fussell and Bill Moffitt.
- AMERICAN GOLDEN PLOVER:** Kevin Hints recorded a late migrant at Mattamuskeet National Wildlife Refuge, N.C., on 12 November.
- RUDDY TURNSTONE:** A rare inland sighting was a bird in breeding plumage at Winston-Salem, N.C., from 9 to 11 August, as noted by Kevin Hints and Ramona Snively.
- UPLAND SANDPIPER:** One was seen at Kure Beach, N.C., on 1 August by Ricky Davis.
- SPOTTED SANDPIPER:** An early fall migrant was noted on 5 July near Chapel Hill, N.C., by Jim Pullman and Elizabeth Teulings.
- GREATER YELLOWLEGS:** One was late at McKinney Lake Fish Hatchery in eastern Richmond County, N.C., on 11 November, as seen by Tom Howard.
- WHITE-RUMPED SANDPIPER:** Rare inland in the fall was an individual at Roanoke Rapids Lake seen by Merrill Lynch on 3 October. John Fussell and Kevin Hints noted three late birds at Bodie Island, N.C., on 11 November.
- DUNLIN:** A single individual was seen at Raleigh on 26 October by Jim Mulholland, two were seen by Clark Olson on 12 November at Beaverdam Reservoir, and two were observed by Harry LeGrand near Clemson from 29 October to 19 November. This is the last shorebird to arrive inland in the fall, seldom being seen before late October.
- SHORT-BILLED DOWITCHER:** Four were reported by Clark Olson at Beaverdam Reservoir on 3 September.
- LONG-BILLED DOWITCHER:** John Fussell noted three at Lake Mattamuskeet on 12 November, and he saw one on a saltwater mudflat near Beaufort, N.C., on 7 December. This species seldom occurs in salty habitats, but it generally forages at fresh and brackish pools and impoundments.
- SEMPALMATED SANDPIPER:** Forty was a good inland count at Roanoke Rapids Lake on 3 October (Merrill Lynch).
- BUFF-BREASTED SANDPIPER:** Inland individuals were seen by Eric Garner et al. at Beaverdam Reservoir on 27 August, and by Tom Howard at Lake Surf on 5 September. Good North Carolina Outer Banks totals were 10 at Bodie Island on 2 September (Paul DuMont) and 11 at Oregon Inlet on 3 October (Jim Pullman, Elizabeth Teulings). Coastal South Carolina sightings were five at the U.S. Vegetable Lab near Charleston on 18 September (Perry Nugent), and one on 8 October at the spoil area near Savannah (Joe Greenberg).
- HUDSONIAN GODWIT:** The first inland record for North Carolina is that of two birds seen along the causeway at Lake Mattamuskeet on 23 October 1977 by Geraldine Cox, Elizabeth Ball, et al., fide John Fussell.
- WILSON'S PHALAROPE:** Outstanding counts were the 18 birds at Pea Island on 21 August and 13 birds at Bodie Island on 18 August, as noted by John Bazuin, Brian Keelan, and Stan Walens.

NORTHERN PHALAROPE: One was observed at South Pond on Pea Island on 21 August by John Bazuin, Brian Keelan, and Stan Walens, a rare onshore report.

POMARINE JAEGER: The only report from shore was a light-phase adult seen by Ricky Davis at Carolina Beach, N.C., on 19 November.

PARASITIC JAEGER: Ricky Davis saw two individuals, plus five unidentified jaegers, at Carolina Beach on 19 November.

BLACK-LEGGED KITTIWAKE: An immature seen by Merrill Lynch and Harry LeGrand off Oregon Inlet on 14 October was somewhat early.

FORSTER'S TERN: Two were seen by Clark Olson at Beaverdam Reservoir on 3 September, and two (possibly the same birds that were at Beaverdam) were noted the following day at Parker Creek impoundment by Dennis Alwon. Alwon also reported two at Parker Creek on 30 April.

COMMON TERN: A high inland count was a flock of 26 seen at Lake Johnson near Raleigh on 30 August by Jim Mulholland. One was late at Cape Hatteras, N.C., on 11 November, as seen by John Fussell.

LEAST TERN: John Fussell saw one at Fort Macon, N.C., on 10 September, the latest fall date for Carteret County. Records for the Carolina coast after September are thus rare, and observers should be extremely careful when reporting such fall and winter sightings.

CASPIAN TERN: Ten at the Morehead City-Beaufort causeway on 3 December was a good count for so late in the season, fide John Fussell. Inland reports were four at Beaverdam Reservoir on 3 September (Clark Olson) and two there on 9 September (Dennis Alwon), and one at Lake Surf on 15 September (Tom Howard).

BLACK TERN: Jim Mulholland observed 10 near Raleigh on 10 August, and P.J. Crutchfield reported single birds near Fayetteville on 6 and 28 August.

RINGED TURTLE DOVE: There have been four sightings in the Charlotte, N.C., area during the past year, fide Joe Norwood. The latest report was one at R.D. Wilson's feeder on 28 November.

MONK PARAKEET: Mike Tove observed one flying over I-40, just SW of Asheville, N.C., on 27 August.

BLACK-BILLED CUCKOO: Two individuals were seen and heard along the Blue Ridge Parkway at Waterrock Knob, N.C., on 14 July by Mike Tove.

CHUCK-WILL'S-WIDOW: A late bird was noted by Tom Howard at Southern Pines on 18 September.

WHIP-POOR-WILL: One was heard by a student in the N.C. State University ornithology class at Manteo, N.C., on 10 November; and John Fussell noted one at Emerald Isle, N.C., on 16 November.

COMMON NIGHTHAWK: Late individuals were seen at Aberdeen, N.C., on 22 October (J.H. Carter III), and near Chapel Hill on 29 October (Jim Pullman, Elizabeth Teulings).

YELLOW-BELLIED SAPSUCKER: A very early fall arrival was noted by John Fussell II at Morehead City on 13 September.

WESTERN KINGBIRD: Only four reports, all coastal, were received, with the peak being three seen together at the Ocracoke Ferry Terminal, N.C., on 18 October by J.H. Carter III.

SCISSOR-TAILED FLYCATCHER: A noteworthy sighting was an individual reported by R.A. DesPortes at Myrtle Beach State Park, S.C., on 8 May.

ACADIAN FLYCATCHER: Paul DuMont et al. observed a late bird on the North Carolina Outer Banks on 7 October.

ALDER FLYCATCHER: Small populations were noted during the summer in the North Carolina mountains at Roan Mountain (Edmund LeGrand et al.) and in the Graveyard

Fields area of southern Haywood County (Harry LeGrand, Tom Haggerty). Haggerty noted two singing at the latter site as late as 2 August. See General Field Notes for further details.

OLIVE-SIDED FLYCATCHER: Rare fall sightings were individuals in eastern Chatham County, N.C., on 4 September (Dennis Alwon), and at Clemson on 17 September (Sidney Gauthreaux, Harry LeGrand).

TREE SWALLOW: One seen out-of-season at Chapel Hill on 13 June by Jim Pullman and Elizabeth Teulings was presumably a wandering non-breeder or a late spring migrant.

BANK SWALLOW: Good fall totals were 200 at Edisto Island, S.C., as seen by Harry LeGrand on 6 August, and over 500 seen by Mike Tove and Kevin Hints at Long Beach, N.C., on 2 September.

SHORT-BILLED MARSH WREN: A good inland count was three birds near Townville, S.C., on 8 October, seen by Harry LeGrand, and one was there on 7 November.

SWAINSON'S THRUSH: Eleanor Carter saw a late individual at Southern Pines on several dates in early November, through 11 November; it was seen on the previous day by J.H. Carter III.

YELLOW-THROATED VIREO: Two, one of which was singing, were very late near Jamesville, N.C., on 14 November, as reported by Merrill Lynch.

PHILADELPHIA VIREO: What is apparently the first specimen for South Carolina was a dead bird found by Evelyn Dabbs at a TV tower near Sumter on 28 September 1975; it is now in the Charleston Museum. Other records, all in 1978, were two on the Outer Banks on 7 October (Paul DuMont, Robert Ake, et al.); one at Chapel Hill on 17 September (Dennis Alwon); one near Blowing Rock, N.C., on 27 September (Tom Haggerty); one at the Savannah National Wildlife Refuge on 7 October (Joe Greenberg); one killed at a TV tower in Charlotte on 11 October (Dick Brown); and a bird observed singing one phrase and giving several calls (a mewling note—Harry LeGrand) near Townville on 8 October.

WARBLER WAVE: Paul DuMont, Robert Ake, and two others reported the largest known wave of warblers along the Outer Banks. The following species were seen on 7 October: 5 Tennessee, 7 Nashville, 200 Northern Parula, 3 Magnolia, 260 Cape May, 91 Black-throated Blue, 60 Black-throated Green, 7 Blackburnian, 4 Chestnut-sided, 8 Bay-breasted, 192 Blackpoll, 427 Palm, 1 Ovenbird, 2 Canada, and 193 American Redstart. Also, an immature Connecticut was seen on 9 October.

BLACK-AND-WHITE WARBLER: A bird believed to be an adult female was seen near Chapel Hill on 3 July by Jim Pullman and Elizabeth Teulings.

SWAINSON'S WARBLER: J.H. Carter III heard one near Faison, N.C., on 27 April.

GOLDEN-WINGED WARBLER: Single individuals, all on 17 September, were noted at Clemson (Sidney Gauthreaux, Harry LeGrand), at Raleigh (Clark Olson), and near Bunn, N.C. (Eloise Potter). Others reported were singles at McCain, Hoke County, N.C., on 19 August (Libba Watson), and at Bulls Island, S.C., on 25 August (John B. Andre).

BLUE-WINGED WARBLER: Noteworthy coastal sightings were singles reported by Ricky Davis at Kure Beach, N.C., on 14 September and at Carolina Beach the following day.

ORANGE-CROWNED WARBLER: One was a good find by Clark Olson at Raleigh on 19 November.

NASHVILLE WARBLER: This species is rare in the eastern half of North Carolina in fall; thus noteworthy were one seen by Jim Mulholland near Raleigh on 17 September, one seen at Fort Fisher on 19 September by Ricky Davis, and two seen on 29 October at Chapel Hill by Carol Hamilton.

BLACK-THROATED BLUE WARBLER: Late males were noted by Eleanor Carter at Southern Pines on 1 November, and by David and Bobbin Huff at Isle of Palms, S.C.,

on 11 November.

BLACKBURNIAN WARBLER: One seen by J.H. Carter III near Southern Pines on 8 May was a very rare spring record for the area.

YELLOW-THROATED WARBLER: Rare for the northwestern mountains was a male seen on 19 September by Tom Haggerty at Camp Broadstone in Watauga County, N.C.

PRAIRIE WARBLER: Three were rather late at Fort Fisher on 5 November, as seen by Ricky Davis.

WILSON'S WARBLER: An extremely late individual was observed by Tom Haggerty near Blowing Rock on 20 November. Other birds, all single, were at Fort Fisher on 30 September (Ricky Davis), both Capers Island and Breach Inlet, S.C., on 8 October (Perry Nugent), and near Pinehurst, N.C., on 6 May (Marion Jones).

BOBOLINK: Perry Nugent noted three early migrants near Charleston on 9 August.

YELLOW-HEADED BLACKBIRD: Two females were seen by Harry and Edmund LeGrand at Pea Island on 1 September, and perhaps the same birds were observed farther south at Cape Hatteras point on 2 September by Paul DuMont et al.

NORTHERN ORIOLE: Two females were noted by Clark Olson on 3 December at Lake Wheeler near Raleigh; wintering birds are seldom seen away from towns.

BREWER'S BLACKBIRD: A good find was a group of approximately 30 birds at Hilton Head Island, S.C., on 7 October, as reported by Joe Greenberg.

WESTERN Tanager: Evelyn Dabbs found one killed at a TV tower near Sumter on 13 October 1977.

SUMMER Tanager: A female or immature was seen and heard calling near Boone, N.C., on 13 September by David Shuford and Tom Haggerty. The species is seldom reported from the mountains of the northern part of the state.

BLUE GROSBEAK: Two were late at Fort Fisher on 9 November, as seen by Ricky Davis.

INDIGO BUNTING: Late was a female seen by Renee Probst at a feeder in Pawleys Island, S.C., on 4 November, as were two seen by Ricky Davis at Fort Fisher on 9 November. One was also seen at the latter location by Davis on 11 November.

PAINTED BUNTING: Two green-plumaged birds were late at Pawleys Island on 28 October (Pat Probst).

DICKCISSEL: Ricky Davis observed two females or immatures at Fort Fisher on 7 October.

EVENING GROSBEAK: Unseasonably early were a male near Chapel Hill on 26 July (Dennis Alwon) and a female at a feeder in Raleigh on 28 September (Jim Mulholland).

HOUSE FINCH: Two brown-plumaged birds, perhaps immatures, were seen by Carol Hamilton in her yard in Chapel Hill on 25 August and 3 and 11 September. The peak fall count at the Raleigh Rose Garden was 140, noted by Kevin Hints on 18 November.

PURPLE FINCH: More than a month early was a male seen by Eloise Potter near Bunn, N.C., on 4 September.

RED CROSSBILL: Tom Haggerty noted that flocks of 10 to 20 birds were seen on many occasions during the fall in Watauga County, N.C. However, there were no reports away from the mountains this fall, indicating that the good numbers in this area were probably birds that were present all summer. As reported in the previous issue of *Chat*, unusual numbers were present in the mountains during the summer in the southwestern part of the state.

GRASSHOPPER SPARROW: One seen by J.H. Carter III in the Sandhills Game Land near Hoffman, N.C., on 12 November is the first record for the area since 1926. This secretive species might winter regularly this far north.

SHARP-TAILED SPARROW: Rare inland records were an individual, believed to be of an inland race, seen at the upper end of Roanoke Rapids Lake on 3 October (Merrill Lynch), and a tower-killed bird reported by Dick Brown at Charlotte on 29 October.

BACHMAN'S SPARROW: J.H. Carter III noted single birds at two locations near Hoffman on 23 August, one of which was singing in a brushy old field. Breeding birds in the Sandhills, and in the remainder of the coastal plain, generally inhabit open pine-woods and not old fields, the typical habitat of the species in the piedmont.

DARK-EYED JUNCO: An early arrival was noted at Charlotte on 26 September by Joe Norwood.

CLAY-COLORED SPARROW: An adult was seen at Fort Fisher on 7 October by Ricky Davis, and another adult, perhaps a different bird, was noted there on 21 October by Charles T. Clark.

WHITE-CROWNED SPARROW: An immature was rare at Hunting Island, S.C., on 2 October, as seen by James Clark.

LINCOLN'S SPARROW: Mike Tove found a dead individual at Cullowhee, N.C., on the extremely early date of 29 August. One seen by Tom Howard at Lake Surf on 15 September was the first record for that area. Other individuals were reported at Chapel Hill on 21 October (Dennis Alwon et al.), and near Townville on 22 October (Sidney Gauthreaux, Harry LeGrand).

LAPLAND LONGSPUR: Winter arrivals in northwestern South Carolina were noted near Townville on 19 November and near Pendleton on 25 November, both reported by Harry LeGrand.

SUGGESTIONS ON REPORTING NOTEWORTHY SIGHTINGS FOR “BRIEFS FOR THE FILES”

HARRY E. LeGRAND JR.

Many people who have reported their sightings to me for publication in *Chat* “Briefs for the Files” and in *American Birds* have asked whether or not their manner of reporting is the “correct” or “recommended” manner. The purpose of this note is to give contributors an idea of the “recommended” format.

WHAT TO REPORT —Naturally, you should report species that are rare in the area where found or season when seen. I am also interested in trends, such as species in unusually low or unusually high numbers in your area. This information is important in the *American Birds* seasonal report. Stated simply, report what you think is noteworthy (worthy of mention in the “Briefs” or *American Birds*).

HOW TO REPORT—Every sighting must, by necessity, contain five bits of information: the species name, the number of individuals, the date of the sighting, the location, and the observer(s). Also, the significance of the records may be stated if desired, such as “first county record” or “very late.” In addition, I urge contributors to describe the field marks on the rare species, especially those difficult to identify. Species such as Baird’s Sandpiper, Iceland Gull, and Warbling Vireo (each of which is rare in the Carolinas and easily confused with other species) are examples of birds that should be described in detail. A Common Loon or a Horned Grebe at an inland locality would not need a full description, but a Red-throated Loon, Red-necked Grebe, or Eared Grebe definitely should be detailed. Even though I generally do not publish the descriptions in the “Briefs” or *American Birds*, they are necessary for me to decide whether the sightings are valid or

not. If an observer intends to write a General Field Note for *Chat* on a very rare sighting, he should indicate this with the report, so that I will not duplicate it in the "Briefs".

I prefer the report to be written "Briefs" style, though complete sentences are not necessary. Place the species name at the left margin, with the remaining bits of information following the species name. The species should be in taxonomic order, though this is a convenience and certainly not a necessity. The following hypothetical sightings illustrate the preferred style:

Common Loon: 30 on Lake Smith at Washington, S.C., on Mar. 12 ["12 Mar." if you prefer; year not specified unless the record is over 1 year old] by John Doe. This is a record total for the area.

Red-throated Loon: one seen on Lake Smith at Washington on Mar. 6 by John Doe, only the second local record. The slender and upturned bill was noticed, as were the slender neck, and the light grayish back and crown. It was slightly smaller than nearby Common Loons.

Western Grebe: one studied carefully at Lake Smith near Washington on Feb. 10 by John Doe. It was seen at 100 yards through a 30X scope for 15 minutes. The long bill, very long and slender neck, and solid black and white contrast of upperparts and underparts were noted. It was approximately twice the size of nearby Horned Grebes. A field note for *Chat* will be submitted. This is the first record for the area.

Pied-billed Grebe: surprisingly scarce this winter, with only 3 seen all season in the Washington area.

If you are writing to report on just one or two rarities, the above style need not be followed. You may wish to report them in a prosaic manner, as in a personal letter. Another exception to the above style is a single-day report, such as a pelagic trip list or a list of warblers in a large wave. A single list of species, rather than a separate entry for each species, is recommended.

WHEN TO REPORT—You may, of course, contribute sightings at any time. Those who bird regularly are encouraged to gather all of their sightings at the end of each of the four seasons and then submit their reports [most already do this]. It is at these times that I write the seasonal reports for *American Birds* and the *Chat* "Briefs." The following (included in each issue of *American Birds* on the inside front cover) is a guideline as to when to report:

SEASON	REPORT BY:
Winter (December through February)	March 15
Spring (March through May)	June 15
Summer (June and July)	August 15
Fall (August through November)	December 15

I hope that the above information will help to answer any questions about reporting to "Briefs for the Files" and *American Birds*. It does not matter whether the report is typed or handwritten, although typed reports are easier to read. I just want a report from everyone who has something worth publishing!

BOOK REVIEWS

NEVER ENOUGH OF NATURE

Lawrence Kilham. 1977. Droll Yankee Inc., Mill Road, Foster, Rhode Island 02825. viii + 273 p. \$10.00.

Professionally Lawrence Kilham is a microbiologist who teaches at Dartmouth Medical School, but he is widely known for his papers on bird behavior, particularly those dealing with woodpeckers. *Never Enough of Nature* is a personal account of the experiences with wild and captive animals that provided data for many of the scientific papers. The book was illustrated by the author's relatives, primarily his wife, Jane. The early chapters of the book deal with field experiences in South Carolina and Georgia, but others take the reader to Africa, Panama, and New England. The style of the book is very informal, almost like a series of personal letters. The author's attitude toward nature is summarized by his statement that "natural history is inexhaustible. One can always make discoveries that are new in terms of one's own experience no matter how much of what one sees has been recorded by someone else. The joy of making a discovery is open to those who will but watch and wait." Dr. Kilham's own studies of bird behavior offer ample proof that the amateur can make a significant contribution to ornithology if he will but watch and wait . . . and keep a good record of what he sees.—EFP

A FIELD GUIDE TO THE NESTS, EGGS AND NESTLINGS OF NORTH AMERICAN BIRDS.

Colin Harrison. 1978. William Collins Publishers, Inc., 2080 W. 117th Street, Cleveland, Ohio 44111. 64 color plates. 416 p. Index. Hardcover \$11.95.

When I reviewed Colin Harrison's *Field Guide to the Nests, Eggs and Nestlings of British and European Birds* (Chat 42:40), I expressed the hope that a similar volume would be published for North America. Harrison has made my wish come true, and his *Field Guide to the Nests, Eggs and Nestlings of North American Birds* is no disappointment. It contains 48 plates presenting 622 full-color photographs of eggs, 16 plates reproducing 147 full-color paintings of nestlings by Philip Burton, numerous line drawings of nests and of dorsal or head patterns of nestlings, and a very informative text.

The author properly begins by cautioning the reader against illegal collecting of nests and eggs and by offering suggestions for keeping danger to the eggs and young to a minimum while examining nests. The introduction gives background information on the various types of nesting behavior and defines terms commonly used in describing nests, eggs, and nestlings. There are three identification keys, one each for nests, eggs, and young.

The main text covers the avian species found in North America from the Arctic to the southern boundary of the United States, omitting Baja California, the Gulf of California, and the Bahamas. Species are arranged in taxonomic order, and for each the text gives nest habitat, nest site, nest construction, breeding season, eggs, incubation, nestling description, and nestling period. In many cases question marks show the author's uncertainty about the information, and in others he simply states that there is no information. The most valuable result of the publication of this guide should be an increased interest in the study of breeding birds among amateur ornithologists. Harrison makes clear the need for such studies, and he provides the basic information the bird student needs to watch a nest intelligently and to report the observations meaningfully.

The text of Colin Harrison's new guide inevitably duplicates much of the material in the birds' nests volume of the Peterson Field Guide Series (*A Field Guide to Birds' Nests*, Hal H. Harrison, Houghton Mifflin Co., 1975). The latter book contains color photographs of the nests of 285 species found breeding in the United States east of the Mississippi River. Clutches of eggs can be seen in all but nine of the nests, and end papers illustrate typical egg shapes and markings. The text gives the average size, shape, and general appearance

for the eggs of each species; but the pictures give no sense of the relative size of the eggs or nests. No attempt is made to describe the young, not even to the small extent of saying whether they are precocial or altricial. Hal Harrison's emphasis is on the general appearance of the nest with eggs in the natural setting. Colin Harrison's guide to nests, eggs, and nestlings describes and sometimes illustrates the nests, but his emphasis is on the eggs (photographed to scale) and the young. Thus the two books complement each other, and students of breeding birds will want to own both.

The publisher indicates that Colin Harrison's book is the first in a planned series of nature guides for North America. While the present offering cannot be expected to make the best-seller lists, it is an excellent book and an auspicious beginning for a formidable undertaking. If future releases are of the same caliber as the present one, Collins Publishers will provide naturalists with a rich new source of authoritative aids to identification.—EFP

RECORD REVIEW

SOUNDS OF FLORIDA'S BIRDS (ARA-5)

Narrated by John William Hardy. 1979. ARA Records, 1615 N.W. 14th Avenue, Gainesville, Florida 32605. 12-inch long-playing record. \$7.00 postpaid.

Although this record is "dedicated to the school children of Florida," it has much to offer anyone who is interested in bird sounds. The 80-odd species include many that are typical of the southeastern United States (Louisiana Heron, Least Tern, Parula Warbler) in addition to the expected Florida specialties such as the Limpkin, Mangrove Cuckoo, Gray Kingbird, Florida Scrub Jay, Black-whiskered Vireo, and the Dusky and Cape Sable Seaside Sparrows. Two surprises are the recordings of the West Indian Nighthawk and the Cuban Yellow Warbler, neither of which is mentioned in the table of contents. The Black Rail and Swainson's Warbler recordings are outstanding.

Most of the original tapes used in making this recording are from the Florida State Museum's Bioacoustic Archive. While differences in equipment and variations in field conditions are at times noticeable on the disc, both the selected tapes and the pressing are excellent. CBC members will note with interest that many of the recordings were made by David S. Lee while he was an Associate of the Florida State Museum.

Hardy is to be commended for his tasteful narration. He has a pleasant speaking voice and a manner that is authoritative but still imbued with the best qualities of friendly conversation. He offers a few basic facts about each species with appropriate additional comments on the status of the bird in Florida. In some cases he explains background sounds such as the calls of other species or the waves lapping against the side of the boat. I noted only one unfortunate omission in the narration. The Wood Stork recording was made in a nesting colony, and Hardy failed to mention that the vocalizations were those of young birds instead of adults, which do not have a functional syrinx. This one small oversight stands out because the rest of the commentary is almost flawless.

Other ARA Records include "Voices of Neotropical Birds," which contains the sounds of over 50 species ranging from Mexico to South America, and "The Wrens," which contains recordings of more than 40 of the 60 wrens known to science.—EFP



Belted Kingfisher



MEMBERSHIP

Carolina Bird Club, Inc., is a non-profit educational and scientific association founded in March 1937 and open to anyone interested in the study and conservation of wildlife, particularly birds. Dues, contributions, and bequests to the club are deductible from State and Federal income and estate taxes. Checks should be made payable to Carolina Bird Club, Inc., and sent to CBC Headquarters, P.O. Box 1220, Tryon, N.C. 28782.

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OUR COVER—Frank Furr, chief photographer of the *Concord Tribune*, captured an adult Bald Eagle on film with his 300 mm Nikon lens. For further details, see page 61 in this issue.

BIRD LIFE OF A FARM IN PIEDMONT SOUTH CAROLINA

BILL HILTON JR.

Between 2 January 1977 and 3 August 1978, various students from Fort Mill High School, Fort Mill, S.C., studied the bird population of a 250-acre farm in central York County, S.C.

A total of 14 observers, most of whom were my general or advanced biology students while I taught at Fort Mill, participated in 46 outings over the 20-month period. During that time, we accumulated a list of 90 species of birds (Table 1). Of these 90 species, both male and female birds were seen for 23 species, and active nests were found for nine species.

The study was conducted on the Mac Stewart Farm near York. The tract, situated at the intersection of SC 161 and York County Road S-46-117, included approximately 100 acres of open pasture, 25 acres of near-monoculture pine forest, 75 acres of mixed pine/hardwood forest, and 40 acres of stream-bottom hardwood forest. The farm also had a 10-acre open pond, a smaller 2-acre holding pond that was heavily overgrown to the water's edge, several unused outbuildings, and a house and barn in constant use. The entire tract was in active cattle graze for the duration of the study.

The bird population of the farm was as might be expected for any similar locality in the northern piedmont of the state, but not all species have been reported from York County in either *South Carolina Bird Life* or *The Chat*. Although one function of this report is to supplement those publications in some small way, my chief motivation in writing this article is to encourage other bird watchers who are also teachers (or who simply know teachers) to help students become involved in natural history studies.

Traditionally, amateur naturalists have made meaningful contributions to the scholarly knowledge of the natural world, particularly in the field of ornithology. I personally believe that high school students are not too young to act as competent observers if they are properly trained. Several of the students involved in this study are already "very good" observers, and will graduate to the ranks of "expert" amateur ornithologists within a few years. Students can—on the average—get much more involved in their studies of high school biology if they are encouraged to do field work along with their classroom and laboratory assignments. The trend in many high schools and colleges in the past 15 years has been to stress cellular and sub-cellular biology and to neglect natural history studies. Happily, recent textbooks have begun a swing back to ecological approaches to biology, and certainly a happy medium can be found to the benefit of the student and of the flora and fauna around him.

Table 1 lists only birds that were sighted. No audible-only records are included, chiefly because of the relative inexperience of the observers in identifying species by call or song. All visual records were verified by the author. The presence of young implies that breeding occurred on or near the Stewart farm even though a nest might not have been found. The absence of fall records for some common species is the result of the small number of visits made during that season.

The only species that requires special comment is the Brown-headed Cowbird (*Molothrus ater*), which has previously been reported as nesting in South Carolina only from Oconee, Charleston, and Spartanburg Counties (South Carolina Bird Life, Sprunt and Chamberlain, revised 1970 by Burton, p. 628-629).

On 1 June 1978 we were raft-floating on the farm's 10-acre pond—in an attempt to approach otherwise unapproachable water snakes that habitually sunned in overhanging shrubs—when a female Blue Grosbeak (*Guiraca caerulea*) flushed from her nest. The nest was placed in a central fork of a common alder about 57 inches from the ground. The shrub overhung the pond surface, but the nest itself was directly over the shoreline. The structure consisted of various grasses woven tightly around a central core of balled up clear polyethylene sheeting, that latter constituting about 50% of the nest by volume.

TABLE 1. Birds of the Stewart Farm, York County, S.C.,
Between 2 January 1977 and 3 August 1978.*

Great Blue Heron	WS	Wood Thrush	SSu
Green Heron	SSu	Hermit Thrush	WS
Turkey Vulture	WSSuF	Eastern Bluebird, m, f, y, n, e	WSSuF
Black Vulture	WSSu	Blue-gray Gnatcatcher, ad., n	SSu
Sharp-shinned Hawk	FWS	Golden-crowned Kinglet	FWS
Cooper's Hawk	F	Ruby-crowned Kinglet, m	WS
Red-tailed Hawk	FW	Cedar Waxwing	FS
Red-shouldered Hawk	WSSu	Starling, ad., y	WSSuF
Broad-winged Hawk, ad., y	SSu	White-eyed Vireo	Su
Marsh Hawk, m	S	Red-eyed Vireo, ad., y	SSu
Bobwhite, m & f	WSSu	Black-and-white Warbler, m	Su
American Woodcock	W	Prothonotary Warbler, m, f	SSu
Spotted Sandpiper	S	Northern Parula, m, f	SSu
Solitary Sandpiper	Su	Yellow Warbler, m, f	SSu
Mourning Dove	WSSu	Magnolia Warbler	S
Rock Dove	SSuF	Yellow-rumped Warbler, f	WS
Yellow-billed Cuckoo, y, n	SSu	Pine Warbler	S
Chimney Swift	SSuF	Louisiana Waterthrush, m	Su
Ruby-throated Hummingbird, f	Su	Kentucky Warbler, m	SSu
Belted Kingfisher, m, f	SSu	Common Yellowthroat, m, f	SSu
Common Flicker, m	WSSuF	Yellow-breasted Chat	Su
Red-bellied Woodpecker, m, f, y	SSu	Canada Warbler, m	S
Yellow-bellied Sapsucker	FWS	American Redstart, m, f	SSu
Hairy Woodpecker	Su	House Sparrow, m, f	Su
Downy Woodpecker, m, f	WSSu	Eastern Meadowlark, ad., n, e	WSSuF
Eastern Kingbird	SSu	Red-winged Blackbird, m, f, n, e	SSu
Great Crested Flycatcher	Su	Orchard Oriole, m, f	S
Eastern Phoebe, ad., y, n	WSSuF	Rusty Blackbird	WS
Acadian Flycatcher	Su	Common Grackle, m, f, y	WSSu
Eastern Wood Pewee	S	Brown-headed Cowbird, f, y, e	Su
Rough-winged Swallow	SSu	Summer Tanager, m, f	SSu
Barn Swallow, ad., y, n	SSu	Cardinal, m, f, n, e, y	WSSuF
Purple Martin, m, f	SSu	Blue Grosbeak, m, f, n, e, y	SSu
Blue Jay	WSSuF	Indigo Bunting, m, f	SSu
Common Crow	WSSuF	Purple Finch, m, f	WS
Carolina Chickadee	WSSuF	American Goldfinch, m, f	S
Tufted Titmouse	WSSuF	Rufous-sided Towhee, m, f, y	WSSuF
White-breasted Nuthatch	S	Savannah Sparrow	WS
Red-breasted Nuthatch	FW	Dark-eyed Junco	FWS
Brown Creeper	W	Chipping Sparrow	WS
Carolina Wren	WSSu	Field Sparrow, ad., y	SSu
Mockingbird	WSSu	White-throated Sparrow	WS
Catbird	SSuF	Swamp Sparrow	S
Brown Thrasher	SSu	Song Sparrow	WSSuF
American Robin, ad., y	WSSuF	Grasshopper Sparrow, ad., y	SSu

*m = male, f = female, ad. = adult, y = young, n = active nest, e = eggs in nest, S = March through May, Su = June through August, F = September through November, and W = December through February.

Examination of the nest revealed five eggs—four of them very pale blue (average size 2.20 cm x 1.51 cm) and one of them off-white with brown speckling (2.16 cm x 1.57 cm). The color, texture, size, and circumstances of the latter egg left little doubt that it came from a Brown-headed Cowbird.

The nest was checked at random times, but at least twice daily after 1 June. Typically, the female grosbeak was on the nest when it was visited, although there were a few exceptions. As I approached the nest, the female would usually remain motionless until the last moment and then suddenly burst from the nest, fly to a nearby tree, and chirp loudly for the duration of my examination. Only once was a male Blue Grosbeak seen in the vicinity. On 11 June, the female was not on the nest at 1515, and I subsequently found that the speckled egg had hatched since that morning. By 2030 the next day, three of the grosbeak eggs had hatched, followed by the fourth on 13 June.

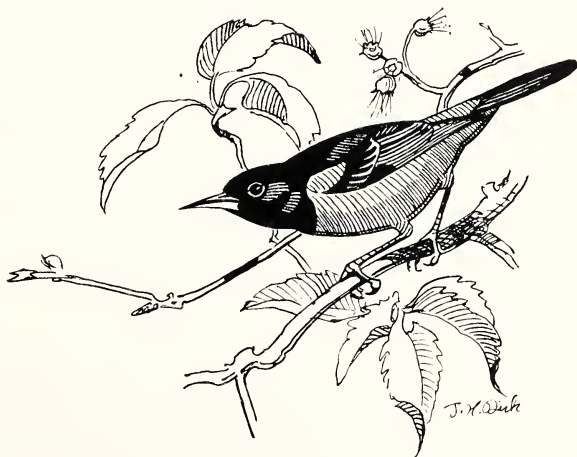
All five young were similar in appearance, with the cowbird nestling being slightly larger for the first 2 days. The grosbeaks soon caught up in size, and all five developed thereafter at about the same rate. One pronounced difference was that the colored target area of the cowbird's gaping mouth was a bright red-orange, while the grosbeak mouths were a paler yellow-orange. Color slides were taken of the nest, eggs, and nestlings.

On 18 June I departed on a previously planned trip; thus, no data are available on brood duration, fledging, or possible mortalities. The nest was found to be deserted on the next inspection date of 30 June. A female Brown-headed Cowbird was seen near the pond on 4 July 1978. This was the first and only appearance of an adult cowbird recorded during the entire 20-month study of the Stewart Farm.

Observers for the study were Bill Hilton Jr., Susan and Billy Hilton, and Jim Shuman (a graduate student in nature interpretation at West Virginia University) in addition to Fort Mill students Melissa Ballard, Fred Nims, Guy Molnar, Robby Bryant, Russ Rogers, Julie Belrose, Chris Moore, Frances Parks, Terri Coltharp, and Cindy Kelly.

POSTSCRIPT: Within a few weeks of the termination of this study, the Mac Stewart Farm was sold to a group of real estate developers. Shrubs that once provided nesting sites have been bulldozed away. Alterations in the habitat will no doubt result in major changes in the bird population of the tract.

Department of Ecology and Behavioral Biology, University of Minnesota, Minneapolis, Minnesota 55455, 25 August 1978.



SPRING BIRD COUNT—1978

JOHN O. FUSSELL III

Compared to the doldrums of the 1977 Spring Bird Count, the 1978 Count was indeed refreshing. More species (257—not a record, but commendable) and individuals (117,697) were found, and five localities had record species totals. Also, there were a couple of exciting rarities: Raleigh's **Lark Bunting** and Pilot Mountain State Park's **Goshawk**, both of which were new to the cumulative Spring Count species list. On the coast, Wilmington (177 species) and Morehead City (175) had very good counts, although both might have done better a week later. Inland, Raleigh's 155 and Winston-Salem's 155 (a record) were excellent totals. One new area was covered—Boone in the North Carolina mountains where Libbus Carter and Tom Haggerty found a respectable 97 species despite cold, wet weather. They turned up the Count's only **Common Merganser** and **Bald Eagle**.

The improvement of this year's census was evidently due to a good migration. It was not due to better coverage. The total number of localities (27) was down from 31 in 1977, and the totals of field observers (491) and field-hours (1672) were down, although slightly. Weather apparently contributed to the general success. During the count period, there was a significant amount of frontal activity, and this probably contributed to many of the unusual finds. With the frontal activity, there was much rain, but most of it fell on weekdays and most count days were dry or had only brief showers. Apparently the effects of the rain added to species totals at some places such as New Hope and Raleigh—at the latter because a dam broke. The most popular count day was 6 May, which had very fine weather. An exception to the nice count weather was in the mountains and upper piedmont, where four counts had cool temperatures and enough rain to hamper birding. Ironically, the latest count held, Boone on 14 May, had the most winter-like weather.

The two best birds of the count were the **Lark Bunting** and the **Goshawk**, apparently a migrant. Other highlights were the late **Oldsquaws** at Wilmington, **Bald Eagle** (Boone) and **Peregrine Falcon** (Wilmington), **Black Rail** (Raleigh), **Wilson's Phalaropes** (Winston-Salem), **Least Flycatcher** (Raleigh), and **Warbling Vireo** (Wilmington and Chapel Hill). **Olive-sided Flycatcher** (Chapel Hill), **Brewster's Warbler** (New Hope), and **Lincoln's Sparrow** (Winston-Salem) are seldom sighted anywhere in North Carolina, and this is also true of Raleigh's count period **Lawrence's Warbler**. For the numerous other notable sightings, see the

ABOUT THE COUNT TABLE

When John Fussell took on the job of compiling the 1978 Spring Bird count for *Chat*, he planned to type camera-ready copy for the count table. This would greatly reduce the cost of publication and still list every species for every count area. As the deadline for the Summer 1979 issue came and passed, John realized that he would not be able to overcome the technical difficulties facing him. Therefore, he devised an abbreviated count table that was set by the printer but is, because it is limited to one page, within our budget. The table lists totals for species, individuals, observers, field-hours, and field-miles as well as full data for selected species that are of general interest. The truly rare birds are noted in boldface type in the text along with many other species that are at least locally noteworthy.

As soon as possible, a photocopy of the complete handwritten count table will be placed in the files of the CBC Records Committee. Meanwhile, anyone who desperately needs to know how many Mockingbirds were recorded in each count circle should write to John, who will be pleased to answer reasonable requests for data not included in the published account.—EFP

Table 1. Selected species from the 1978 Spring Bird Count in the Carolinas.

	Total Individuals	Morhead City, N.C.	Wilmington, N.C.	Charleston, S.C.	Beaufort Co., N.C.	Pamlico Co., N.C.	Dillon Co., S.C.	Cumberland Co., N.C.	Southern Pines, N.C.	Columbia, S.C.	Henderson, N.C.	Raleigh, N.C.	Durham, N.C.	Chapel Hill, N.C.	New Hope River, N.C.	Greensboro, N.C.	Winston-Salem, N.C.	Iredell Co., N.C.	Charlotte, N.C.	Greenwood Co., S.C.	Greenville, S.C.	Pilot Mountain State Park, N.C.	Elkin-Ronda, N.C.	Caldwell Co., N.C.	Brevard, N.C.	Grandfather Mountain, N.C.	Buncombe Co., N.C.	Boone, N.C.	14 May
Brown Pelican	372	3	14	355	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Turkey Vulture	272	8	15	31	14	-	-	*	3	3	2	3	30	17	21	7	5	10	3	12	1	31	4	-	39	-	11	2	-
Black Vulture	73	1	2	19	-	-	-	-	4	-	-	-	12	1	24	7	*	4	-	4	-	-	-	-	-	-	-	-	-
Swallow-tailed Kite	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mississippi Kite	11	-	-	3	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Goshawk	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sharp-shinned Hawk	26	2	1	1	1	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	2	1	2	-	-	-
Cooper's Hawk	12	-	-	-	-	-	-	-	-	1	1	1	1	2	1	1	1	1	-	-	-	-	-	-	-	1	1	-	-
Accipiter (sp.)	3	-	-	-	-	-	-	-	-	-	-	-	2	-	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-
Red-tailed Hawk	177	2	6	7	5	1	*	3	2	6	2	22	18	18	9	6	18	7	7	1	-	26	6	1	4	-	-	-	-
Red-shouldered Hawk	76	5	2	8	3	2	-	3	2	3	-	7	5	7	4	3	1	4	5	5	-	7	1	1	7	4	3	1	-
Broad-winged Hawk	55	-	-	-	-	-	-	-	1	2	-	-	1	5	4	3	2	6	9	2	1	-	-	-	-	-	-	-	-
Bald Eagle	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Marsh Hawk	19	3	3	-	-	1	4	1	1	1	-	1	*	2	2	-	-	-	-	-	-	1	-	-	-	-	-	-	-
Osprey	150	22	64	20	9	9	1	*	*	5	4	1	-	-	4	4	1	-	1	1	2	1	-	1	1	-	-	-	-
Peregrine Falcon	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Merlin	4	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
American Kestrel	32	3	4	3	-	2	-	*	-	4	-	1	1	1	1	2	2	-	-	-	-	-	-	1	3	-	3	-	-
Falcon (sp.)	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Red-br. Nuthatch	60	3	24	-	1	-	2	5	-	-	-	4	6	-	4	3	3	-	1	-	2	-	-	1	2	-	1	2	-
House Wren	150	3	-	-	-	1	-	*	3	6	15	12	18	15	1	7	29	6	7	1	-	7	20	9	1	4	-	-	-
Carolina Wren	989	29	25	87	27	11	10	44	17	51	3	87	48	150	64	49	54	8	87	16	9	9	13	16	39	1	33	2	2
Ruby-cr. Kinglet	73	1	-	5	-	-	-	1	7	-	1	4	1	4	1	1	1	-	-	-	-	-	-	2	2	4	2	4	*
Evening Grosbeak	716	74	13	12	-	-	6	28	10	28	13	72	43	77	3	30	37	-	-	-	-	-	28	94	100	25	23	4	*
Purple Finch	79	-	4	-	-	-	-	-	4	7	-	6	2	-	-	-	17	-	-	-	-	-	-	1	4	19	2	19	-
House Finch	24	-	-	-	-	-	-	-	-	-	-	6	3	-	3	7	-	4	-	-	-	-	-	1	-	-	-	-	-
Pine Siskin	375	*	-	-	-	-	19	9	*	1	74	11	38	-	47	62	-	11	20	-	-	-	16	-	66	-	1	-	-
Am. Goldfinch	3165	1	3	-	1	1	*	56	7	213	10	388	193	375	363	278	450	270	48	37	22	12	38	15	204	-	145	35	-
Total no. species	257	175	177	153	116	95	74	97	121	137	70	155	118	140	127	136	155	103	111	110	73	89	72	81	114	62	84	97	-
Total no. individuals	117,697	11,103	10,791	12,549	3,818	1,750	1,488	2,132	1,480	5,353	1,215	9,690	4,195	9,449	5,599	6,370	8,532	3,632	3,278	2,019	1,112	1,253	866	1,463	4,700	801	2,017	1,042	-
Field observers	491	18	25	25	20	6	3	13	5	11	2	49	25	53	29	27	45	13	15	2	7	7	7	9	12	30	1	36	2
Ward observers	85	5	0	0	1	0	2	4	2	0	9	0	1	18	0	5	3	0	2	0	2	0	4	7	19	0	1	0	-
Field parties	199	12	9	8	8	3	2	7	4	7	2	22	9	21	13	9	13	4	6	2	4	3	3	8	12	1	6	1	-
Field-hours	1,072	107	89	64	75	32	18	44	28	70	12	156	69	163	95	80	156	28	52	25	31	30	39	53	68	14	57	17	-
Field-miles by foot	731	34	41	46	33	8	3	19	11	36	8	85	39	88	54	32	44	19	18	6	8	14	15	15	27	2	21	5	-
Field-miles by car, boat	4,320	240	381	177	295	168	86	59	137	239	60	175	148	308	144	355	97	154	163	230	40	25	81	58	142	78	220	60	-

* Seen in count area during count period but not on count day.

compilers' comments. Several inland counts had large numbers of coastal birds, and Winston-Salem had 15 species of shorebirds, while Raleigh had 11. In the mountains, Boone had 11 species of shorebirds during the count period.

Of course the Spring Count is fun and sport, and its birds are not counted in a scientific way, to say the least. Thus, any conclusions based on the Count are always open to question. However, it appears that this and other recent Spring Counts reflect certain population trends. Brown Pelicans seem to be increasing, and totals for most species of diurnal raptors are up (Table 1). (They're also up for nocturnal raptors, but we're drinking more coffee on recent counts.) Large numbers of Red-breasted Nuthatches and Evening Grosbeaks lingered in the Carolinas in the spring of 1978 (Table 1), and large numbers of Bobolinks were passing through. On the other hand, certain species still seem depressed in numbers from recent cold winters—Carolina Wren (in some areas), House Wren, and Ruby-crowned Kinglet (Table 1). House Finch numbers are going up (Table 1); they'll probably be doing that for a long time!

In general, compilers of this Count did a good job, excellent in many cases. However, there are problems with the reporting and detailing of rarities and with simple math. Details are required for rare birds. If a bird is considered unusual by the compiler, then details describing it should be given. Details don't need to be lengthy but should name observers, give location (especially habitat), optical equipment and lighting, duration of observation, distance of bird from observer, and field marks including vocalizations and behavior. **Please note:** Merely stating that "all diagnostic field characters" were seen says almost nothing. If a rare bird is seen, especially if it resembles a common bird (as an example, in North Carolina, an Arctic Tern compared to a Common Tern), observers should try to record all field characters, remembering that individuals vary and that "freaks" do occur. The purpose of detailing a rarity is to insure the future acceptance of the sighting as valid by bird students who do not know the observer, compiler, or editor.

Some compilers hate to throw out questionable birds, so they pass the buck by sending in reported rarities with a note mentioning their skepticism, thus hinting that the editor should delete the bird. For those who don't want to have to reject birds, here's a suggestion. Make a count form for participants that lists only birds that are to be expected in your area—the more conservative the list, the better—and require any additions to the list to be thoroughly described before acceptance. Such a list is especially good at preventing false reports of birds that are generally common but locally rare, generally common but seasonally rare, or uncommon and closely resemble common species.

The second problem is tabulation of the counts. Fourteen (over half!) of the counts had incorrect individual totals. Apparently, many compilers add their totals only once. Even with a calculator, one can push the wrong digits. Correcting these incorrect totals takes a considerable amount of time. Especially inexcusable were the five counts with incorrect species totals (all were high). Of the two counts I have totaled, Charleston, Raleigh, Durham, and Winston-Salem deserve special commendation for very neat count forms with correctly added totals.

I would like to clear up a point of confusion. **Count period for the Spring Count** is from seven days before to seven days after count day. The change was made because so much birding is done on weekends.

I appreciate Harry LeGrand's suggestions regarding the editing of this count. He and Mike Tove shared their knowledge of the status of many birds of the upper piedmont and mountains, where I have done little birding.

COMPILERS' COMMENTS

COAST

MOREHEAD CITY, N.C. (center: 0.7 mile NW of Crab Point in Newport River).

23 April. For two counters (Compiler, Kevin Hintsä), the best part of the day was midnight to 0400, when calm conditions provided excellent night listening. The **Whip-poor-will** and six Black Rails (at North River Marsh) were heard during this time. The **Anhinga**

(Compiler, Donna Goodwin, Hints, Darryl Moffett) at Walker's Mill Pond was found for the third straight year. The Canada Geese (Mike Alford) were not semi-wild resident birds but migrants flying northeast in early morning. **Merlin** (Compiler, Hints) was seen at 200 feet in excellent light. **Solitary Vireo** (Hints) and **Dark-eyed Junco** (Bill Moffitt) were slightly late. Count period **Yellow-headed Blackbird** showed up in a Beaufort yard 30 April; it was seen by Compiler 1 May and remained for a few days thereafter.—JOHN O. FUSSELL III, 1412 Shepard Street, Morehead City, N.C. 28557.

WILMINGTON, N.C. (center: Monkey Junction).

22 April. Jim Parnell found the two very late **Oldsquaws**. **Peregrine Falcon** was seen by Greg Massey. Two rare migrants were the **Warbling Vireo** (Parnell) and two **Blue-winged Warblers** (Ricky Davis). [The count of 24 Red-breasted Nuthatches is notable.—JF] —FRANCES NEEDHAM, Box 8207, Wrightsville Beach, N.C. 28480.

CHARLESTON, S.C. (center: 14 miles NE of Mt. Pleasant and 0.5 mile E of US 17).

7 May. Our count was held about a week later than usual, which may account for the absence of some migrants. [The 2030 Red Knots probably constitute a Spring Count record total.—JF]—JULIAN HARRISON, Biology Department, College of Charleston, Charleston, S.C. 29401.

COASTAL PLAIN

BEAUFORT COUNTY, N.C. (center: entrance of Upper Goose Creek into Pamlico River).

7 May. [This is a record species count for Beaufort County. Several migrant species that are generally uncommon in spring near the coast were found: Broad-winged Hawk, Black-billed Cuckoo, Yellow Warbler, two Black-throated Blue Warblers, Scarlet Tanager, and two Rose-breasted Grosbeaks.—JF]—GERALDINE COX, P.O. Box 162, Washington, N.C. 27889.

PAMLICO COUNTY, N.C. (center: in Florence at intersection of 1324 and 1329).

30 April.—GERALDINE COX, address as above.

DILLON COUNTY, S.C. (center: Dillon.)

2 May.—JOHN H. WILSON, Box 535, Dillon, S.C. 29536.

CUMBERLAND COUNTY, N.C. (center: Market Square in Fayetteville).

7 May. Three notable species of shorebirds were seen during the count period: a **Semipalmated Plover** and two **Ruddy Turnstones** on spillway of Glenville Lake 3 May (N. McIntosh, M.E. Whitfield), and an **Upland Sandpiper** at Becker Sand and Gravel Company 30 April (Compiler). Compiler also observed the two **Least Flycatchers** 10 May; one was giving the "che-bek" call.—PHILIP J. CRUTCHFIELD, 901 Montclair Road, Fayetteville, N.C. 28304.

SOUTHERN PINES, N.C. (center: 1 mile NE of Skyline).

3 May. The winter-plumaged **Black-bellied Plover** and breeding-plumaged **Dunlin** were both seen with other shorebirds at Lake Surf by Compiler.—J.H. CARTER III, P.O. Box 891, Southern Pines, N.C. 28387.

COLUMBIA, S.C. (center: intersection of Gill's Creek and Bluff Road).

30 April. This was a very good count, Columbia's best ever. Excellent totals were **eight** (seven adult, one immature) Mississippi Kites, **36** Grasshopper Sparrows, and **56** White-crowned Sparrows; most of the sparrows were in fields near water treatment plant. Two notable warblers were two male **Blue-wingeds** (Lee Ellis) and a male **Magnolia** (Compiler). During count period, Compiler observed two **Anhingas** and a male **Dickcissel** (all 28 April),



Fig. 1. Lark Bunting
Raleigh, N.C.
2-11 May 1978
(Photo by J. Merrill Lynch)

and he, Frank Hill, Joe Jekutis, Oscar LaBorde, and Charles Whitney tallied **five** singing Swainson's Warblers along a 1-mile stretch of swamp 2 May. [I did not include a count period Budgerigar in the count table, but I encourage reports of "Budgies" so that, in the unlikely event of their becoming established, the increases will be documented.—JF]—BRIAN ELLIOT CASSIE, 4215 Bethel Church Road, Columbia, S.C. 29206.

HENDERSON, N.C. (center: Henderson).

6 May.—NEITA ALLEN, 152 Lakeview Drive, Henderson, N.C. 27536.

RALEIGH, N.C. (center: Norfolk and Southern RR crossing on Lake Wheeler Road).

6 May. Beautiful weather, a near-record species total, a feisty but almost invisible **Black Rail**, a spring-plumaged male **Lark Bunting** that put on a well-attended 9-day performance, and a broken dam made this an unforgettable count! Clark Olson heard the **Black Rail** calling in midmorning at Greenview. During much of midday, it responded aggressively (by calling) to taped Black Rail songs, but up to 10 birders could not flush or see it. Finally, Darryl Moffett's dog was recruited, and, after an hour's work, she flushed the bird for about 3 seconds. Kevin Hints found the **Lark Bunting** (Fig. 1) 2 May; it stayed until the count, was seen by many participants, and remained for at least five more days. Many of the 12 species of shorebirds were on the bed of empty Greenview Pond, including the **13 White-rumped Sandpipers** (Olson). Another good find was the **Least Flycatcher** seen and heard calling by Eric and Ron Johnson. Jim Mulholland observed the **Lawrence's Warbler** carefully 3 May.—R.J. HADER, 3313 Cheswick Drive, Raleigh, N.C. 27609.

DURHAM, N.C. (center: 1 mile N and 1 mile E of junction of Eno River and US 501).

22 April. In general, numbers of year-round residents were somewhat lower, perhaps because of the severe winter weather. The **Merlin** (Michael Schultz) was well described. Two **Cliff Swallows** (W.H. and Margaret Wagner) were in a flock of about 150 swallows. [This count ties the previous record species total.—JF]—JOHN HORN, Department of Botany, Duke University, Durham, N.C. 27706.

CHAPEL HILL, N.C. (center: intersection of Columbia and Franklin Streets in Chapel Hill).

7 May. Finding an abundance of Bobolinks and 27 species of warblers highlighted the count. Species listed as unusual (many of these were "coastal" species) were **Common Loon**, 11 **Double-crested Cormorants**, 3 **Cattle Egrets**, **Redhead**, **Herring Gull**, **Forster's Tern**, **Merlin**, **Olive-sided Flycatcher**, **Short-billed Marsh Wren**, **Warbling Vireo**, and **Worm-eating Warbler**. Rarest species found on the count was the **Olive-sided Flycatcher**, which was seen at 20 yards by John and Nancy Spahr. Description of the bird mentioned that "all diagnostic field marks from the front and side [were] easily seen." [This is a record species total.—JF]—W.H. and MARGARET WAGNER, Route 2, Falls of New Hope, Chapel Hill, N.C. 27514.

NEW HOPE RIVER, N.C. (center: the point where SR 1700 crosses New Hope River).

30 April. This count was unusual in that the whole central area of count circle was flooded on count day as a result of heavy rains during the previous week. The New Hope River became New Hope Lake. Even John Connors' woodcock plot became a lake! Apparent "aftermath" of the flood included **Double-crested Cormorant**, **Little Blue Heron**, two **Great Egrets**, **Snowy Egret**, **Yellow-crowned Night-Heron**, **American Bittern**, **Forster's Tern**, **Long-billed Marsh Wren**, and count period **Common Loon** and **Black Tern**. Two other notable finds were **Merlin** (Dennis Alwon, well described) and **Brewster's Warbler** (Anna Mueller, Monica Nees). [This is a record species total. Although no birds were seen during the count period, three Red-cockaded Woodpecker cavity trees were discovered in the southern part of the count circle earlier in the year.—JF]—BARBARA ROTH, 7 Lone Pine Road, Chapel Hill, N.C. 27514.

GREENSBORO, N.C. (center: transmitter tower of Radio Station WBIG).

6 May. [There were no details about the **Sanderling**, which is rare inland. Isn't the count of 65 Rusty Blackbirds noteworthy?—JF]—DONALD ALLEN, 2611 David Caldwell Drive, Greensboro, N.C. 27408.

WINSTON-SALEM, N.C. (center: intersection of I-40 and Silas Creek Parkway).

6 May. The 15 species of shorebirds are excellent. Most of these were at the sewage treatment plant; best finds were the three **White-rumped Sandpipers**, **Dunlin**, two **Wilson's Phalaropes**, and a count period **Northern Phalarope**. All were seen by several observers and described well. Fran Baldwin and Wayne Irvin found the "vagrant" (from Pilot Mountain?) **Raven**, singing **Short-billed Marsh Wren**, and **Lincoln's Sparrow**. They saw the sparrow at 25 feet, noting the fine streaking on buffy breast, breast-belly contrast, and gray face. Noteworthy count period birds were **American Bittern**, **Virginia Rail**, and **Alder Flycatcher**. The flycatcher (Glenys Gallaher) was singing "fee-bee-o" song. [This is a record species total; also, 170 species were found during count period.—JF]—RAMONA SNAVELY, 115 Plymouth Avenue, Winston-Salem, N.C. 27104, and Fran Baldwin, 1030 Englewood, Winston-Salem, N.C. 27106.

IREDELL COUNTY, N.C. (center: South Yadkin River Bridge on Chipley Ford Road).

6 May. **American Bittern** (Lois and Thad Goforth) is new to count. **Common Tern** was observed by Joel and Sue McConnell and Dick Mize. [Noteworthy are the **1542** Bobolinks.—JF]—SAMUEL A. CATHEY, 130 Park Street, Statesville, N.C. 28677.

CHARLOTTE, N.C. (center: intersection of South Boulevard and Woodlawn Road).

15 May. Notable species were the **Common Loon** (Greg Cornwell, Angela Stanton) and the two **White-rumped Sandpipers** (Compiler et al.). Jack Hamilton counted eight of the American Woodcocks along 3 miles of creek bottom.—FLO COBEY, 919 Greentree Drive, Charlotte, N.C. 28211.

GREENWOOD COUNTY, S.C. (center: intersection of routes 246 and 34 in Ninety-Six).

6 May. **Laughing Gull** at Lake Greenwood (Compiler) was an adult. Compiler also saw the singing **Canada Warbler**. Lisa Lewis distinctly heard the **Tennessee Warbler** twice; she is familiar with the song.—BOB LEWIS, 308 East Creswell Avenue, Greenwood, S.C. 29646.

GREENVILLE, S.C. (center: intersection of highways 291 and 29).

11 May.—ROSA LEE HARDIN, Star Route Box 60, Cleveland, S.C. 29635.

PILOT MOUNTAIN STATE PARK, N.C. (center: intersection of US 52 and Pinnacle exit from US 52).

13 May. Only one rarity was found, but what a rarity it was! Jim Mattucks, who has done much raptor watching at Hawk Mountain, Pennsylvania, observed the **Goshawk** at approximately 65 to 70 yards as it proceeded eastward (ahead of a thunderstorm) in a group of raptors including Red-shouldered Hawks, Red-tailed Hawks, an Osprey, and a Marsh Hawk. Mattucks observed the typical accipiter outline, silver underparts, and broad eye stripe.—E. WAYNE IRVIN, 1510 Lynnwood Avenue, Winston-Salem, N.C. 27104.

ELKIN-RONDA, N.C. (center: intersection of US 21 and US 21A, 3 miles N of Elkin).

29 April. Bruce Sherman observed the gray head, eye ring, and yellow throat of the **Nashville Warbler** at 20 feet.—LIN HENDREN, P.O. Box 148, Elkin, N.C. 28621.

CALDWELL COUNTY, N.C. (center: Lenoir).

1 May. HELEN E. MYERS, 310 Beall NW, Lenoir, N.C. 28645.

MOUNTAINS

BREVARD, N.C. (center: 5 miles SE of Brevard at Rich Mountain Lookout Tower).

6 May. The following are considered noteworthy: **Greater Scaup**, **Least Sandpipers**, **Semipalmated Sandpipers**, **Sanderling** (count period), **Swainson's Thrush**, **Rusty Blackbird**, and **Fox Sparrows**. [No details except observers were given for any of the above. Documentation would have been desirable, especially for the **Greater Scaup**, **Sanderling**, and **Fox Sparrows**.—JF]—WALTER C. HOLLAND JR., 290 Maple Street, Brevard, N.C. 28712.

GRANDFATHER MOUNTAIN, N.C. (center: where SR 1514 crosses Wilson Creek).

1 May. It is hardly spring here. Trees are still bare over most of count area. Winter Wrens and Carolina Wrens are now scarce in the count area. **Purple Martin**, **Bobolink**, and **Palm Warbler** are locally unusual.—MARGERY R. PLYMIRE, Box 306, Linville, N.C. 28646.

BUNCOMBE COUNTY, N.C. (center: intersection of US 70 and SR 2740 in Swannanoa).

22 April.—JAMES R. WARNER, Route 2, Box 1133, Asheville, N.C. 28805.

BOONE, N.C. (center: Boone).

14 May. The well-described immature **Bald Eagle** (Compiler, Libbus Carter) was seen from the Blue Ridge Parkway. Both observers saw the female **Common Merganser** at Price Lake; sharp head-throat color contrast and other field marks seen well, as close as 35 yards. Partially drained Price Lake provided good shorebird habitat on count and during the count period; most notable were count period **Semipalmated Plovers**, **White-rumped Sandpipers**, **Short-billed Dowitchers**, and **Semipalmated Sandpipers**.—TOM HAGGERTY, P.O. Box 1597, Boone, N.C. 28607.



Roundtable

... with Louis C. Fink

Caution

Bird-watching may be growing too fast in popularity for its own good. There have been no complaints in the Carolinas, but other parts of the country are reporting damage to habitat and to the birds.

The Audubon Rare Bird Alert in New York has had to stop giving the exact location of unusual birds. Over-zealous bird-watchers prompted the change.

In Massachusetts, a Boreal Owl was lifted from its roost and its feathers plucked.

Near West Point, N.Y., a Cerulean Warbler left the area when disturbed by recordings.

In Arizona, the Black Hawk and Gray Hawk have been driven from their specialized habitat by photographers seeking extreme close-ups.

Robert Arbib, editor of *American Birds*, says, "There will always be a few eager beavers who feel that it's a competitive, macho thing to add birds to their list."

The *New York Times*, which reported this problem, says that owners of private property are especially careful. Let a rare bird be reported and scores or hundreds of people will descend, destroying lawns, crops, and trees.

Carolínians can take warning.—LCF

More on Rock Dove Behavior

With regard to Crutchfield's observations of a Rock Dove on Forest Lake in Fayetteville, in the Spring number of *Chat*, although I have never seen a Rock Dove on fresh water, I have seen them light on salt water, and in the British literature it is said that they drink sea water.

The strange peninsula called Nahant, just outside of Lynn, Massachusetts, ends in cliffs that furnish breeding sites for the only completely feral colony of Rock Doves in Massachusetts. It is quite easy here to see the doves descend onto the ocean, stop briefly, and take off again.—CHARLES H. BLAKE, Box 10, Hillsborough, N.C. 27278.

North Carolina Special

American Birds for March 1979 looked like a special Tar Heel issue. Edmund and Harry LeGrand contributed a major article on the Bodie-Pea Island area, complete with photo and map. David S. Lee was represented with a 2-page report on the second North American record of the South Trinidad Petrel. Both Carolinas were mentioned in an article on the status of the Rufous Hummingbird in eastern North America. And our region was covered thoroughly by Harry's season report on the South Atlantic Coast and George Hall's on the Appalachians.

Lee's *Pterodroma arminjoniana* was a dark-phase female bird collected 74 km ESE of Oregon Inlet on 20 August 1978 as part of a long-term study of pelagic vertebrates off the upper portion of the North Carolina coast (*Chat* 43:1-9). This species breeds in the Southern Hemisphere and is not known to wander widely. The only previously known North American record of the South Trinidad Petrel was a hurricane-driven specimen taken near Ithaca, New

York, 24 August 1933. Another Northern Hemisphere record is an individual that struck the rigging of a yacht in the mid-Atlantic 31 December 1905. The North Carolina occurrence does not appear to have been associated with abnormal weather conditions. Lee suggests that this small dark petrel might easily be mistaken for a Sooty Shearwater or even a jaeger under certain conditions.

Clemson Papers Session

Three scientific papers were presented at Long Hall, Clemson University, the afternoon of 19 May 1979 in conjunction with the spring meeting of Carolina Bird Club. Papers were solicited by Paul B. Hamel, who presided over the well-attended session. Titles and authors of the papers are as follows:

Daily and Seasonal Time Budget of the Eastern Bluebird. Carroll Belser, Department of Entomology and Economic Zoology, Clemson University, Clemson, S.C. 29631.

Trends in the Number of Diurnal Raptors Seen on Recent North and South Carolina Christmas Bird Counts. Keith L. Bildstein, Department of Biology, Winthrop College, Rock Hill, S.C. 29633.

The Role of the Southeastern Forest Experiment Station in Determining the General Biology and Status of the Red-cockaded Woodpecker. Richard F. Harlow, Southeastern Forest Experiment Station, Department of Forestry, Clemson University, Clemson, S.C. 29631.

The lively discussion and warm fellowship at this session, as well as at the one organized by Julian Harrison for the midwinter meeting at Pawleys Island, suggest that the presentation of papers should become a regular feature of CBC meetings.—EFP

Volunteer Bird Population Monitors Needed

The 1976 symposium on endangered and threatened species held at Charleston listed 13 species of "special concern" in South Carolina. We need to learn more about their true status and population trends in the state; therefore, we are seeking volunteers willing to monitor these species through breeding bird surveys, county-wide censuses, and other types of studies. Long-term studies of 5-year duration or longer would be especially valuable.

The 13 species of special concern are Canvasback, Merlin, Mississippi Kite, Wilson's Plover, Barn Owl, Ground Dove, Great Horned Owl, Red-headed Woodpecker, Hairy Woodpecker, Common Raven, Bewick's Wren, Loggerhead Shrike, and Swainson's Warbler.

Additionally, the symposium listed Least Tern, Cooper's Hawk, Wood Stork, and American Osprey as threatened. The state list of endangered species includes three not on the federal list, namely Swallow-tailed Kite, Golden Eagle, and Ipswich (Savannah) Sparrow.

Volunteers should call my office (758-6113 in Columbia) or write me at the address given below.—JOHN EMMETT CELY, Coordinator, Nongame & Endangered Species Section, South Carolina Wildlife & Marine Resources Department, P.O. Box 167, Dutch Plaza, Building D, Columbia, S.C. 29202.

[Readers who attended the spring CBC meeting in Clemson will recall Mr. Cely's very beautiful and informative slide talk on the Natural Heritage Program in South Carolina.—ED.]

Exotics!

On numerous occasions between 1976 and 1979 I watched House Sparrows feeding on insects adhering to automobile grilles and radiators. Individual House Sparrows, as well as those feeding in groups of two to five, would typically fly to the ground beneath the front of a car and then fly up, grab an insect, and drop back to the ground, before eating the insect. Dates for most observations were not recorded but all were obviously during the warmer months when insects are active and all sightings were on asphalt parking lots in downtown Raleigh, N.C.

On 24 April 1979 I watched two adult birds working several cars for approximately 15 minutes. After seizing an insect, the birds would fly off with it and then quickly return and

repeat the process. It is assumed they were feeding nestlings. The energetic benefits of this foraging strategy in heavily paved urban environments is obvious and may partly explain the relatively dense populations of House Sparrows that can occur in these areas.

Several summers ago Micou Browne called to my attention another interesting feeding behavior of House Sparrows. He noted that small flocks frequently feed in the center of foraging groups of Rock Doves on the lawns of the Capitol grounds in downtown Raleigh. Here, where there is continual pedestrian traffic, the House Sparrows were able to feed while using the flushing of pigeons as an alarm system when people approached too closely. It is assumed that this behavior allows the smaller birds to concentrate more energy on feeding while not needing to remain on a constant vigil for the frequent human disturbance. I have witnessed this behavior on several subsequent occasions, and it appears that at certain times the sparrows are deliberately seeking foraging pigeon flocks.

Additionally, commensal feeding behavior has been noted in another exotic species—the Starling. In the spring of 1973, on five consecutive afternoons in late April, I watched groups of three to eight Starlings circle Grey Squirrels feeding on walnuts in a suburban yard in Towson, Maryland. After a squirrel would discard one partly eaten nut and start on another, a Starling would run in, grab a fragment of the shell in its beak, retreat several yards away from the squirrel, and then pick at meat fragments left in the shell.

A repertoire of learned feeding behaviors such as these have apparently allowed both House Sparrows and Starlings to adapt successfully to a wide spectrum of edification habitats and to cope with the seasonal variations in types and availability of foods. Perhaps as the decline of species diversity accelerates with our expanding land modifications—or as energy deficits force bird students to work close to home—we will at least have the potential for observing interesting behavioral patterns among the few seemingly monotonous species that persist locally.—DAVID S. LEE, North Carolina State Museum, Raleigh.

Bald Eagle in Cabarrus County, N.C.

The Bald Eagle that appears on the cover of this issue was seen by half a dozen people when it picked up a dead rabbit from a roadway in southern Cabarrus County, N.C., on 24 May 1979. The bird had been seen earlier by a number of local residents, and it remained in the vicinity until at least 3 June. Although it was seen near, but not on, a large tangle of sticks in the fork of a tree, there is no evidence of breeding. The above information was supplied by Ron MacRae of the *Concord Tribune*. The cover photograph by Frank Furr originally appeared in that newspaper.

An Up-date from F.A. Reid

In a recent letter to Bill and Margaret Wagner, former Chapel Hill resident F.A. Reid shares some of his experiences from field work along the Mississippi River. "It seems hard to believe what trouble we have finding Red-headed Woodpeckers in Chapel Hill, as they are the most common woodpecker here. One has no problem seeing thirty or more in a day. Many feed flycatcher style over the Mississippi shore at dusk and some even join the blackbirds in the field to search out grasshoppers. . . . My research is an investigation into the general ecology of aquatic invertebrates and how their availability is utilized by migrating waterfowl and shorebirds. Recent investigations have found that the old gut analysis on waterfowl was mainly conducted on gizzards. Soft-shelled invertebrates are much more easily digested than coated seeds, and often were already broken down by the time they would be in the gizzard. Now research has shown that pre-breeding females and young consume huge amounts of animal material (makes sense as they need calcium for egg laying and protein for growth). My research [should] clarify some of these relationships." Mr. Reid's present address is Ted Shanks Wildlife Area, Box 13, Ashburn, Missouri 63433.

General Field Notes

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Peregrine Falcons and Boats: An Example of Symbiosis?

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Cape Romain National Wildlife Refuge
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25 September 1978

Symbiosis, which means living together, is used to describe pairs of organisms that live in harmony. Commensalism is a type of symbiosis in which one organism benefits from the presence of another while the latter is unaffected (E.R. Pianka, *Evolutionary Ecology*, Harper and Row, 1974). If the definition is altered to include an inanimate object, then this form of symbiosis has occurred at Cape Romain National Wildlife Refuge, S.C.

Sprunt and Chamberlain (*South Carolina Bird Life*, 1970) include a report by Cape Romain personnel stating that the Peregrine Falcon "sometimes deliberately follows a patrol boat in the waterways of the marshes, and when grebes or ducks are flushed ahead of the boat, the Duck Hawk swoops upon them with astonishing swiftness." This feeding tactic has been reported at Cape Romain recently.

On four occasions between 26 September 1976 and 14 March 1977, a Peregrine Falcon (*Falco peregrinus*) followed a refuge boat through the marshes and attacked Horned Grebes (*Podiceps auritus*). The attacks were made as the grebes taxied on the water. Only one attack was successful, but the falcon dropped or released the grebe after lifting it about 20 feet above the water. No attempt was made to recapture the grebe. It is not known whether these attacks were made by the same Peregrine or by different ones.

I thank the manager at Cape Romain NWR for allowing the use of an unpublished report on the Peregrine Falcon.

Killdeer with Young in Charleston, S.C.

EDWARD C. MORRISON

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31 August 1978

On 14 July 1978, in a grassy lot off Lockwood Boulevard in Charleston, S.C., I saw a Killdeer (*Charadrius vociferus*) that on 17 July proved to be one of a mated pair with two downy young. The 2 to 3 acre lot is less than 100 yards from the Ashley River and is bordered on one side by marsh and on the other by the heavily traveled boulevard.

At my approach, both adults immediately arose: one circling and flying about in its characteristic rapid and erratic flight pattern, the other running to a rock-covered, exposed area, feigning injury as nesting birds of this species often do. The two young scurried into the high grass and did not take flight. I did not see the young after 17 July, but at least one adult was present as late as 5 August.

Wayne (*Birds of South Carolina*, 1910, p. 59) says that the Killdeer is a winter resident in the low country of South Carolina from July to April, but does not breed, "preferring" the

upper part of the state. However, Sprunt and Chamberlain (South Carolina Bird Life, 1949, p. 215) state that the species does breed on the coast and list records from Beaufort and Charleston Counties. Burton (Supplement, South Carolina Bird Life, 1970, p. 598) provides additional nesting records for Berkeley and Dorchester Counties. He also states that nests containing eggs have been found as early as 14 March and as late as 9 July. This is supported by the two young I observed on 15 July.

Nocturnal Feeding of Gulls at a Lighted Pier

SALLY AND DOUG NUNNALLY

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ROBERT NEEDHAM

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20 December 1978

On 4 December 1978, a flock of 1500 to 2000 gulls was observed from 2030 until 2230 off the end of the Crystal Fishing Pier at Wrightsville Beach, N.C. There were no fishermen on the pier, but the spotlight that illuminates the ocean at the end of the pier was turned on. This was the second day that 30-knot southwesterly winds had been blowing. The birds were feeding on small bait fish while hovering above the water at the end of the pier, and dropping back to rest on the surface of the water after feeding. The flock was composed mainly of Laughing Gulls (*Larus atricilla*) with Ring-billed (*L. delawarensis*) and an occasional Herring (*L. argentatus*) and Great Black-backed (*L. marinus*) present. One Royal Tern (*Sterna maxima*) was seen. Two additional small groups of 25 to 100 birds were also feeding beside the pier. At 2330 there were still about 1000 birds present, the majority of which were resting on the surface of the water.

These species are generally considered to be diurnal feeders. We have seen no other instance of the nocturnal attraction of such large numbers of gulls to feed on the schools of small fish regularly encountered adjacent to lighted piers along the North Carolina coast.

Franklin's Gull in Greenwood County, S.C.

BOB LEWIS

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11 April 1978

In the late afternoon of 2 April 1978, I was following my usual birding route along Lake Greenwood in Greenwood State Park, Greenwood County, S.C. It had been the hottest day of the year to date, with a high temperature of 82 degrees F, following a week-long period of unusually warm and dry weather. The sky was cloudless and there was still plenty of light available, even though it was only a half hour before sunset.

Looking north from the camping area, I saw a flock of approximately 350 gulls resting about 100 to 150 yards off shore. This is an unusually large number for April. The flock consisted of several Herring Gulls (*Larus argentatus*); roughly 310 Ring-billed Gulls (*Larus delawarensis*); 35 Bonaparte's Gulls (*Larus philadelphia*), many of which had almost completely black hoods; and one other gull.

The bird was intermediate in size between the Bonaparte's and the Ring-billeds, but closer to the Bonaparte's. The bill, too, was intermediate: shaped more like the Ring-billed's, but distinctly smaller relative to the size of the head. The blackish-red bill was, therefore, too slight to be that of a Laughing Gull (*Larus atricilla*). The black hood of the breeding plumage was complete. An almost complete white eye ring was very noticeable. The mantle was dark gray, much darker than that of either the Bonaparte's or the Ring-billed's. Separating the mantle color from the black wing tips was a broad band of white.

I saw the pattern of the opened wings briefly on three occasions, once when the bird stretched its wings and twice when it (and the rest of the flock) took flight. From above the

wings showed the classic field-guide pattern: the white band separating the black wing tips from the gray mantle color. From below, this white area looked like a translucent window, similar to that of the Red-shouldered Hawk (*Buteo lineatus*).

These observations were made through an 80X Questar telescope. Because of the relatively small distance between me and the gull, the air turbulence caused by the warm weather was not a problem. Attempts to relocate the bird the next day failed.

The bird was clearly a Franklin's Gull (*Larus pipixcan*). There are two other records of this highly insectivorous prairie species from South Carolina: a bird observed by Harry LeGrand near Townville, Anderson County, on 8 May 1975 (Chat 39:92), and a bird discovered by the author and Lisa Lewis at Huntington Beach State Park, Georgetown County, on 26 September 1976 (Chat 41:96).

Diet of the Barn Owl on a South Carolina Barrier Island

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The examination of cast pellets has provided valuable dietary information for owls as well as data on the distribution and abundance of small mammals in coastal South Carolina (Nelson 1934, 1973). One of the most reliable species for pellet analysis is the Barn Owl (*Tyto alba*). Formerly common in the coastal area, this species is now thought to be declining (Gauthreaux, in press) and is regarded as uncommon in the Cape Romain area (U.S. Department of Interior 1976).

Analysis of 60 Barn Owl pellets collected on Lighthouse Island in the Cape Romain National Wildlife Refuge on 16 June 1978 reveals a primary reliance on the Meadow Vole (*Microtus pennsylvanicus*) and the Rice Rat (*Oryzomys palustris*). Dietary components included remains of the following: 34 Meadow Voles, 8 Rice Rats, 2 Roof Rats (*Rattus rattus alexandrinus*), 1 Norway Rat (*Rattus norvegicus*) 1 Red-winged Blackbird (*Agelaius phoeniceus*), 1 marsh wren (*Cistothorus* sp.), 7 Fiddler Crabs (*Uca* sp.), 1 Paper Wasp (*Polistes* sp.), and 1 Marsh Periwinkle (*Littorina irrorata*).

Meadow Voles included in these samples are representatives of the only known coastal population in South Carolina (Golley 1966, Sanders 1978). It is of interest that this disjunct population was discovered on Lighthouse Island in 1933 (E.B. Chamberlain, unpublished, Charleston Museum files), and after a lapse of 45 years, both the Barn Owl and its unusual prey are still represented.

The writer acknowledges the assistance of E. Burnham Chamberlain in verifying identifications of specimens and of Buddy Bennett in aiding collection.

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[NOTE: French and Wharton (Oriole 40: 6-10) examined over 2000 mammal remains from Barn Owl pellets collected in Alabama, Georgia, and South Carolina. Cotton Rats were the chief dietary item at all localities, including the single South Carolina one in the Savannah National Wildlife Refuge. Tedards (Chat 27:1-3) also found the Cotton Rat predominant in Barn Owl pellets collected in the vicinity of Anderson, S.C.—JRH]

May and June Observations of the Whip-poor-will in the South Carolina Coastal Plain

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13 September 1978

Whip-poor-wills (*Caprimulgus vociferus*) and Chuck-will's-widows (*C. carolinensis*) are common South Carolina goatsuckers. Whip-poor-wills are winter residents in coastal South Carolina, migrating north in April (Sprunt and Chamberlain 1970). Individuals of the species breed in the northwestern third of the state (Sprunt and Chamberlain 1970). Chuck-will's-widows migrate into the low country about the same time that Whip-poor-wills move northward. Sprunt and Chamberlain (1970) note that the two species occur together in the foothills of the mountains in the breeding season. Knighton (1972) reported that the Whip-poor-will occurs down the Savannah River valley in summer as far as the fall line. Smith (1978) found a juvenile with an adult in Lynchburg, Lee County, S.C., in August 1977.

We made the reported observations (Table 1) as part of field work on the Beidler Forest in Four Hole Swamp, Dorchester County, S.C., and in and near the Beidler Tract in the Congaree Swamp, Richland County, S.C. Each report consists of our having heard one or more individuals calling. Habitat in the Congaree Swamp was young pine and mixed pine-hardwood forest adjacent to agricultural fields on the bluffs north of the swamp. Habitat in the Beidler Forest was 15-year-old Loblolly Pine (*Pinus taeda*) and mixed hardwood forest on a sand ridge bordering Four Hole Swamp. To the best of our knowledge these are the first records of *C. vociferus* in these counties during the probable breeding season. The observations in Dorchester County extend the possible breeding range of the Whip-poor-will far down the South Carolina coastal plain to within approximately 80 km of the coast. Fussell and Guida (1975) have made a similar observation in coastal North Carolina.

This work was supported in part by a grant to Hamel from the U.S. Forest Service. We appreciate the assistance of Marion Burnside, who provided access to the Beidler Tract of the

Table 1. Records of goatsuckers calling in South Carolina coastal plain, spring 1977-1978.

Place	Date	No. Chucks	No. Whips	Habitat ¹	Observers
Congaree Swamp	12 June 1977	Present	2	P	BEC
	30 April 1978 ²	33	10	P/H	BEC
	21 May 1978	1	3	P, P/H	PBH, SMW
	25 May 1978	Present	4	P	BEC
	4 June 1978	4	4	P, P/H	PBH, SMW, H. Winton
Beidler Forest	23 May 1978	2	1	P/H	PBH, SMW
	6-18 June 1978	Present	1	P/H	SMW

¹ P = pine forest; P/H = mixed pine-hardwood forest.

² Cassie had found Whip-poor-wills in similar localities 23 March and 2 April 1978.

Congaree Swamp. The manuscript has benefited from reviews by E.B. Chamberlain, S.A. Gauthreaux, H.E. LeGrand Jr., and F.R. Moore.

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[NOTE: Tom Rial heard a single Whip-poor-will and six to eight Chuck-will's-widows at Aiken State Park in the South Carolina upper coastal plain on 11 June 1976. He and Gerald Knighton suggested (letter, 1 July 1976) that this was a rather late record for a migrant and that the species may have nested in the park.—JRH]

Comments on the Call Notes of Alder and Willow Flycatchers

HARRY E. LeGRAND JR.

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November 1978

Although the songs of the Alder Flycatcher (*Empidonax alnorum*) and the Willow Flycatcher (*E. traillii*) have been well described in the literature—*fee-BEE-o* for Alder and *FITZ-bew* for Willow—seemingly nothing has been written concerning the separation of these sibling species by call notes. Peterson (A Field Guide to the Birds, 1947) gives the call note of the "Traill's Flycatcher" as a "low *pep* or *pit*", and Pough (Audubon Land Bird Guide, 1949) gives the "Traill's" call as an "abrupt *wit*". Both of these guides were written before Traill's Flycatcher was separated into two species by the American Ornithologists' Union in 1973 (Auk 90:411-419); thus, it is unclear which call notes are given by Alder Flycatchers and which by Willows.

My field work at Raleigh, N.C., and in the mountains of that state has provided some information on this subject. The common call of the Willow is a fairly sharp *weeet* or *wit*, somewhat similar to that of the Least Flycatcher (*E. minimus*), which has a *whit* or *wit* call. The Willow call thus corresponds to that described by Pough. Not until the summer of 1978 did I hear the call of the Alder, one of a pair of birds in the Shining Rock Wilderness Area in southern Haywood County. The call was a distinct, fairly low *pip* or *pep*, reminding me of the double note call of the Winter Wren (*Troglodytes troglodytes*) or the common call of the Song Sparrow (*Melospiza melodia*). This seems to be the call described in the Peterson guide.

More field work and input from other birders will be necessary to determine if these differences in calls are species-specific. If so, it might be possible to identify calling *Empidonax* flycatchers in migration, when species of this genus are very difficult to identify unless in song.

Lawrence's Warbler at Francis Beidler Forest: First Sight Record for South Carolina

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12 September 1978

At 1040 on 20 April 1978 we and Steve Winton of the National Audubon Society were studying the behavior and habitats of breeding warblers in the Beidler Forest near Harleyville, Dorchester County, S.C. We were approaching a singing male Swainson's Warbler (*Limnothlypis swainsonii*) when we found ourselves surrounded by a flock of migrant warblers. Among the flock was a male Lawrence's Warbler (*Vermivora chrysoptera* x *V.*

pinus). Hamel first identified the bird and was able to observe it for 3 to 4 minutes. For 1 to 1.5 minutes Wright was also able to see the bird very clearly and identify it. We observed the bird in bright shade from 10 to 15 m with 10 x 50 (Hamel) and 7 x 35 (Wright) binoculars. We noted the following field marks: yellow crown and greenish back; blue-gray wings and tail; two white wing bars; large white patches in the tail feathers as is the case in Blue-winged Warbler (*V. pinus*). The face, breast, and belly were yellow, with a large triangular black throat patch extending up the chin to the bill, and a separate black patch extending from the bill through the eye and including the auricular region. The bird was no larger than the Common Yellowthroat (*Geothlypis trichas*) that was in nearby bushes. Before Winton was able to locate the bird, it had moved off. We pursued the bird for an additional 5 minutes but were unable to see it again.

During the time of observation and subsequent pursuit the bird sang softly at an approximate rate of 1 to 2 songs per minute. Three elements were involved in the song: an initial buzzy note, a lower-pitched staccato trill, and an equally low-pitched jumble of one- and two-part notes perhaps adequately described as a twittering. Typically the pattern of the song was buzz-trill-twitter, although occasionally a buzz-twitter-trill combination was sung.

The Lawrence's Warbler foraged at heights between 1 to 4 m in the lower and outer parts of the canopies of 7 to 14 m trees, in 2 to 3 m shrubs, and in other vegetation 1 m tall. Foraging was accomplished by patient peering and gleaning over and under leaves. The foraging activities were reminiscent of the methodical gleaning tactics of a Northern Parula (*Parula americana*) conducted at low heights rather than in the middle and upper canopies of overstory trees. Habitat at the site of the observation was cutover wet hardwood forest.

This Lawrence's Warbler, the first recorded in South Carolina, was not seen when Winton took members of the Charleston Natural History Society to the site on 23 April. Both parental forms of the Lawrence's hybrid, Blue-winged and Golden-winged Warblers, are spring and fall transients in South Carolina. The latter is also an exceedingly rare summer resident in the mountains (Sprunt and Chamberlain 1970). Harry LeGrand (pers. com.) reports two summer records of the Blue-winged in the Clemson area. Brewster's Warbler, the other hybrid form produced in Blue-winged x Golden-winged Warbler crosses, is apparently still unknown in South Carolina (Sprunt and Chamberlain 1970, Faver 1953). The flock of migrants in which the Lawrence's Warbler was found included 20 to 30 Yellow-rumped Warblers (*Dendroica coronata*), 5 or 6 Black-and-white Warblers (*Mniotilta varia*), 2 Worm-eating Warblers (*Helminthos vermivorus*), and perhaps other species. These birds may have been brought to the Beidler Forest by the powerful front that moved into coastal South Carolina from the SW on 19-20 April.

This work has been supported by a grant to Hamel from the U.S. Forest Service. We are indebted to Norman Brunswig and his staff at the Beidler Forest for access to this National Audubon Society Sanctuary. The manuscript has benefited from the comments of E.B. Chamberlain, S.A. Gauthreaux, H.E. LeGrand Jr., and F.R. Moore.

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[NOTE: Mrs. Charles T. Chapin reported (letter, 22 May 1974) a "male" Lawrence's Warbler near the Harbor Town golf course on Hilton Head Island, S.C., 23 April 1974. However, no details were provided and this record remains unconfirmed.—JRH]

Probable Breeding of the Ovenbird in Lower Coastal Plain of South Carolina

JOHN E. CELY

5140 Furman Avenue, Columbia, S.C. 29206

13 January 1978

On 14 May 1977, I observed a singing Ovenbird (*Seiurus aurocapillus*) near Brookgreen Gardens, Georgetown County, S.C. Another singing Ovenbird was found at this location on

Summer 1979

31 May, presumably a male on territory, as migration was well over. On 1 June, I returned and made a concerted effort to find a nest but did not succeed. However, on 10 June the male and a female were together "showing concern" and giving alarm notes. The male continued to sing through the month of June, but I was unable to find the birds in July. Repeated attempts to locate a nest were unsuccessful.

Sprunt and Chamberlain (1970, p. 472) give definite breeding records for the Ovenbird only from the mountains. Nevertheless, the late Annie Rivers Faver (pers. com.) found it breeding in lower Richland County in the middle of the state. McKenzie (1975) reported an Ovenbird in June at the Carolina Sandhills National Wildlife Refuge, Chesterfield County.

In North Carolina, Pearson et al. (1959, p. 331) list the Ovenbird as breeding from Raleigh westward with two records from the coastal plain in Bertie and Craven Counties. Recently, LeGrand (1975) described the nesting status of this species in the North Carolina upper coastal plain as fairly common but absent in the lower coastal plain. However, Fussell (1970) reported that Ovenbirds were present throughout the summer in the Croatan National Forest in the North Carolina lower coastal plain.

The habitat at Brookgreen Gardens where the Ovenbirds were found consisted of a mature 75-foot Loblolly Pine (*Pinus taeda*) stand with a 40- to 60-foot middle story of Live Oak (*Quercus virginiana*) and Laurel Oak (*Q. laurifolia*). Sparkleberry (*Vaccinium arboreum*) and Laurel Oak saplings were the principal understory plants. Ground cover was sparse, although a rich accumulation of mulch and leaf litter was present. The male's territory covered about 6 acres. According to Harrison (1975), Ovenbirds nest on "deciduous forest floors, especially with low undergrowth." Burleigh (1958) noted that Ovenbirds are not very particular about a nest site except that the ground be well covered with dead leaves.

The following species of birds were associated with the Ovenbirds at the Brookgreen Gardens site: Wood Thrush, Hooded Warbler, Tufted Titmouse, Red-eyed Vireo, White-eyed Vireo, and Summer Tanager.

Although no nest was found, I suggest that the Ovenbird may now be considered a rare summer resident in the South Carolina lower coastal plain. The preferred nesting sites of this species are scarce in the pine-dominated forests of the region.

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ADDENDUM

Cely returned to the location in Georgetown County on 4 June 1979. In the identical spot where the pair had been found 2 years earlier, he saw an Ovenbird and heard it singing.

American Redstarts in the Lower Coastal Plain of South Carolina During the Breeding Season

JOHN E. CELY

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30 June 1978

On 14 June 1978, I saw and heard American Redstarts (*Setophaga ruticilla*) on the banks of Wadmacon Creek, a tributary of the lower Santee River, Georgetown County, S.C. This location is only 21 air miles from the Atlantic Ocean. At least eight singing males were found along a 1-mile stretch of the creek, which strongly suggests that redstarts were breeding there.

Historically, the American Redstart was suspected to breed only in the mountainous northwest section of the state (South Carolina Bird Life, 1970, p. 626-627). However, in recent years breeding populations of this species have been discovered in the upper coastal plain. On 14 May 1966, Heyward Douglas and I watched a female build a nest in the Santee Swamp, Sumter County, about 40 miles SE Columbia (Chat 34:50). Three years later Bruce Mack (Chat 33:104-105) also observed a female building a nest in lower Richland County, about 20 miles upstream from Santee Swamp. On 16 July 1971, Shuler and others (Chat 35:113) observed a singing male and a female with a well-feathered immature on the north bank of the Wateree River just inland from its confluence with the Congaree River in Sumter County. Thus far, breeding populations of the redstart in the coastal plain have been found only in the heavily forested bottomlands of the Santee River and its tributaries, despite the efforts to locate them in the nearby Francis Marion Forest and the lower Pee Dee River Swamp.

The breeding distribution of the redstart in the South Carolina coastal plain could be an example of how a successful, pioneering warbler uses a bottomland drainage system as a "pathway" for range expansion. Observers in the piedmont and coastal plain could add new knowledge of the American Redstart's breeding range in the state by looking for evidence of nesting along stream bottoms and in low deciduous woods.

[NOTE: Norris (Birds of the AEC Savannah River Plant Area, Contributions from The Charleston Museum No. 14, 1963, p. 58) cites a juvenile male collected by Fred Denton on 9 July 1953 at the mouth of Upper Three Runs Creek, Aiken County. This record strongly suggests breeding in that area.—JRH]

The Golden-winged Warbler in Coastal Carolina: A Recent Record and Comments on its Fall Migration

JOHN B. ANDRE

Cape Romain National Wildlife Refuge
Route 1, Box 191, Awendaw, S.C. 29429

25 September 1978

On 23 August 1978, Ruth Ittner and I saw a Golden-winged Warbler (*Vermivora chrysoptera*) on Bulls Island, Cape Romain National Wildlife Refuge, S.C. The bird was viewed for 3 minutes from 20 feet with 7 x 35 binoculars. The dorsal surface was gray from tail to crown. The forehead was yellow as were the slurred wing bars. The belly and breast were white with a dark gray bib. The eye-line and ear-patch regions were also dark gray, bordered with white. The dark gray bib and facial markings indicate the bird was an adult female or an immature of either sex.

The warbler was feeding among the leaves of a 15-foot Live Oak (*Quercus virginiana*) at the edge of a lawn. Feeding behavior consisted of moving along small branches searching leaf surfaces for food items.

Sprunt and Chamberlain (South Carolina Bird Life, 1949, p. 438) consider the Golden-winged Warbler to be a rare transient along the coast of South Carolina. A literature search confirms this finding with only two additional observations reported. Burton (Supplement, South Carolina Bird Life, 1970, p. 621) found a dead Golden-winged at the base of a television tower in Charleston, S.C., on 8 October 1954; Sidney Gauthreaux and Harry LeGrand (Chat 38:29) reported a sighting at Folly Beach on 23 September 1973.

If records from coastal North Carolina (Chat 30:111, 36:37, and 37:32) are included, the fall migration period of the Golden-winged Warbler extends from mid-August to mid-October. The apparently erratic nature of this species as a fall migrant in coastal Carolina may be the result of wanderings by immature birds. Additional sight records with age and sex data are needed to clarify the situation.

[NOTE: Jay Shuler found a dead, adult male Golden-winged Warbler at Doe Hall, about 5 miles SW of McClellanville, on 3 November 1974. This specimen is now in the Charleston Museum. Paul W. Sykes Jr. (unpub. M.S. thesis, N.C. State Univ.) did not record this species during his study of land bird migration on the Outer Banks of North Carolina.—JRH]

BRIEFS FOR THE FILES

HARRY E. LeGRAND JR.

(All dates winter 1978-79; CBC = Christmas Bird Count)

- RED-THROATED LOON:** Two were studied carefully at Lake Moultrie, S.C., on 26 January by Bob Lewis, and one was seen by Anne Waters on the Savannah River Plant, S.C., on 23 December.
- WHITE PELICAN:** One was a rare find on 2 February at Hatteras Inlet, N.C., by Robert Soots and Eugene Pond.
- GREAT CORMORANT:** Two were seen on the Wilmington, N.C., CBC on 16 December, probably the same birds seen during the fall at Wrightsville Beach.
- DOUBLE-CRESTED CORMORANT:** Bob Lewis saw nine at Lake Marion, S.C., on 26 January and two at Lake Greenwood, S.C., on 6 January. Another was noted by Bill Lazar at Lake Surf, N.C., on 10 December.
- CATTLE EGRET:** One was rare for the winter season near Lowland, N.C., on 23 February, as reported by Philip Crutchfield and M.E. Whitfield.
- GLOSSY IBIS:** Four were observed on 21 January by Perry Nugent et al. at Magnolia Gardens near Charleston, S.C.
- AMERICAN FLAMINGO:** One was seen by many observers at Pea Island, N.C., throughout the winter.
- WHISTLING SWAN:** An adult was rare at Lake Wheeler near Raleigh, N.C., as seen by Jim Mulholland on 30 December.
- WHITE-FRONTED GOOSE:** Six to eight were present at a farm pond near Raleigh from 16 February to 5 March, as noted by Jim Mulholland et al. An adult was seen by John Henry Dick at Poco Sabo Plantation in Colleton County, S.C., on 21 January.
- SNOW GOOSE:** A white-phase bird and a blue-phase bird were noted by Tom Howard at Lake Surf on 7 December. Another (of unspecified color phase) was seen by Margaret Gidley and Jerry Shiffert at Clemmons, N.C., from 20 December to 2 January.
- GADWALL:** A good mountain record was the sighting of five birds on Price Lake near Blowing Rock, N.C., on 12 December by Tom Haggerty.
- NORTHERN SHOVELER:** A pair was seen by Jim Mulholland near Raleigh on 13 January, and an immature male wintered near Pendleton, S.C., as reported by Harry LeGrand.
- CANVASBACK:** A male observed by Tom Haggerty near Blowing Rock on 5 December was rare for that area.
- GREATER SCAUP:** Three males and three females were rare for midwinter at Pendleton on 17 January, as noted by Harry LeGrand.
- COMMON GOLDENEYE:** Noteworthy reports for North Carolina were a remarkable 35 on 17 February at Lake James (Tom Haggerty); nine females near Raleigh from 23 to 26 February (Jim Mulholland); as many as two males and four females at Parker Creek impoundment in Chatham County during January and February (Barbara Roth et al.); two males near Blowing Rock on 16 December (Tom Haggerty); and single birds at Lake Surf on 31 December (Marion Jones) and Fayetteville on 13 February (Philip Crutchfield).
- BUFFLEHEAD:** Tom Howard had a locally high total of 45 birds at Lake Surf on 15 January.
- OLDSQUAW:** Rare inland were three individuals seen by Clyde Smith on Lake Wheeler near Raleigh on 27 December.
- KING EIDER:** An adult male and a female were seen flying over the surf at Carolina Beach, N.C., on 20 January by Ricky Davis.

COMMON MERGANSER: Good North Carolina counts were 16 (10 males) at Lake Surf on 22 February (Kevin Mason), 13 (11 males) on Lake James on 17 February (Tom Haggerty), 6 on Lake Wheeler on 11 January (Jim Mulholland) and 5 at the latter lake on 11 February (Dennis Alwon, Steve Graves).

RED-BREASTED MERGANSER: Kevin Mason observed two males and a female at Lake Surf on 26 December.

ROUGH-LEGGED HAWK: A light-phase bird was seen near Seaforth in Chatham County, N.C., from 10 December to 10 February by Barbara Roth et. al. Another in similar plumage was noted by Perry Nugent, Tom Reeves, and Jim Roberts at Magnolia Gardens on 24 February.

GOLDEN EAGLE: One was seen by Carl Leibrandt near Burlington, N.C., on 15 February.

BALD EAGLE: Many reports of this species, mainly of immature birds, were received from inland localities, where it is quite rare. Most noteworthy were individuals far inland at the Savannah River Plant on 23 December (Anne Waters), at Beaverdam Reservoir north of Raleigh in late January (Bill Wagner), and at Lake Surf on 15 January (Tom Howard).

MERLIN: One was rare at Chapel Hill, N.C., on 19 February, as seen by Steve and Gary Graves. There have been a surprising number of inland winter sightings over the past few years.

VIRGINIA RAIL: Rare early winter reports were individuals at Lake Benson near Raleigh on 9 and 16 December (R.J. Hader), and near Clemson on 1 December (Harry LeGrand).

SORA: Unusually late were individuals heard at Clemson on 1 December by Harry LeGrand, and near Raleigh on 9 December by R.J. Hader. The latter bird was also seen on 16 December by Hader.

BLACK RAIL: John Fussell heard birds responding to taped calls at North River marsh, Carteret County, N.C., on 13 and 17 December; at Wanchese, N.C., on 30 and 31 December; and Cedar Island, N.C., on 16 January (two individuals). Another was flushed at Magnolia Gardens on 24 February by Tom Reeves, Jim Roberts, and Perry Nugent. There seems little doubt that this rail winters along the entire coast of the Carolinas, at least as far north as Roanoke and Bodie Islands.

COMMON GALLINULE: One was noteworthy near the Intracoastal Waterway in northeastern Pamlico County, N.C., on 23 February, as seen by Philip Crutchfield and M.E. Whitfield.

AMERICAN COOT: Jay Carter noted that 800 wintered at Lake Surf, and 500 spent the winter at Lake Pinehurst, both in Moore County, N.C.

WILSON'S PLOVER: A late individual was observed by John Fussell near Beaufort, N.C., on 20 December.

GREATER YELLOWLEGS: A rare inland winter sighting was of one near Fayetteville, N.C., on 20 January, as noted by Philip Crutchfield et al.

LESSER YELLOWLEGS: Bob Lewis saw seven at Lake Moultrie on 26 January, and 16 there two days later.

PURPLE SANDPIPER: An excellent count of 200 was made at Sullivan's Island, S.C., on 7 February by Tom Reeves.

LEAST SANDPIPER: A group of 28 wintered at Clemson, fide Harry LeGrand. Also in South Carolina, Bob Lewis saw eight at Lake Greenwood on 6 January, 30 at Lake Moultrie on 26 January, and 50 at Santee Refuge on Lake Marion on 28 January. At Raleigh, two were seen on 11 February by Dennis Alwon, and one on 27 February by R.J. Hader. Inland winter records have greatly increased over the past few years.

DUNLIN: A notable winter record was one seen by Bob Lewis and Harry LeGrand on 28 January at Santee Refuge on Lake Marion.

LONG-BILLED DOWITCHER: For the second consecutive winter this species was

observed at Santee Refuge, as Bob Lewis and Harry LeGrand counted 18 there on 28 January. John Fussell saw nine at a Davis, N.C., impoundment on 3 February, as well as one out of habitat on saltwater mudflats at nearby Beaufort on 7 and 20 December.

RED PHALAROPE: One was seen by John Fussell and Bill Moffitt at Oregon Inlet, N.C., on 30 December (Bodie-Pea Island CBC).

GLAUCOUS GULL: Single immatures were observed in North Carolina at the Cape Hatteras lighthouse on 3 February by Allen Bryan and Kevin Hints, and on Bogue Sound near Morehead City on 18 February by John Fussell.

HERRING GULL: Bob Lewis noted 40 at Lake Moultrie on 28 January, a good inland total.

BLACK-HEADED GULL: A subadult was carefully observed at Bodie Island on 7 January by Owen McConnell et al., apparently the fourth North Carolina record.

BONAPARTE'S GULL: Surprisingly high numbers were seen on inland lakes this winter. Noteworthy in South Carolina were 160 at Lake Greenwood on 6 January, 130 at Lake Wateree on 7 January, 120 at Lake Moultrie on 26 January, 50 at Fishing Creek Reservoir on 26 January, and 50 at Lake Marion on 26 January, all seen by Bob Lewis. Also in that state, 80 were at Clemson on 25 February and 30 were at Townville on 10 January, as noted by Harry LeGrand. In North Carolina, 55 were seen by Kevin Mason at Lake Surf on 26 December, and 30 were seen by Steve Graves at Raleigh on 11 February. Four were locally rare at Parker Creek impoundment on 26 December, as reported by Jim Pullman and Elizabeth Teulings.

FORSTER'S TERN: Noteworthy inland were eight at Lake Marion on 26 January, 20 at Lake Moultrie on 26 January, and 150 at the latter on 28 January, all seen by Bob Lewis.

RAZORBILL: Single individuals were seen in the surf off Masonboro Inlet, N.C., on 16 December by Jay Carter et al. (Wilmington CBC), and at Pea Island on 31 December by Harry LeGrand and Merrill Lynch.

DOVEKIE: One was seen by Claudia Wilds near Oregon Inlet on 30 December, as part of the Bodie-Pea Island CBC.

SNOWY OWL: A very rare sighting was an individual at Cedar Island, N.C., noted by Eugene Pond on 27 January.

SHORT-EARED OWL: One seen on four dates from 18 December to 11 January by Jay Carter at Lake Surf was the first North Carolina Sandhills record since 1926.

SAW-WHET OWL: An unusual occurrence was the sighting of one at Isle of Palms, S.C., on 28 December and 22 January by Mrs. Harry Welch and family. Two different calls were also heard.

WESTERN KINGBIRD: One was late at Pea Island on 9 December, as seen by Robert Teulings et al.

ROUGH-WINGED SWALLOW: An early individual was seen on 7 March near Fayetteville by Philip and J.B. Crutchfield.

BARN SWALLOW: Rare for the winter were singles seen on the Wilmington CBC, 16 December, by Frances Needham; on the McClellanville CBC, 17 December, by Pete Laurie and Nelson Taylor; and at the Savannah NWR, S.C., on 28 January by Jim Orgain.

FISH CROW: Kevin Hints noted the first arrival at Raleigh on 16 February, somewhat early for that locality.

SHORT-BILLED MARSH WREN: One was seen and heard calling at a snow-covered weedy field at Clemson on 19 February by Harry LeGrand, a noteworthy inland record.

GRAY CATBIRD: An excellent winter find was an individual studied at Moses Cone Park near Blowing Rock by Tom Haggerty on 10 January.

SPRAGUE'S PIPIT: One was seen for 5 minutes in a field near Charleston on 30 December (CBC) by Pete Laurie, Nelson Taylor, and Perry Nugent. The observers noted the walking habit, overall buffy coloration, striped back, pink legs, and white outer tail feathers.

WHITE-EYED VIREO: John Fussell observed individuals near Newport, N.C., on 13 December and nearby Core Creek on 14 December. Another was seen by Ricky Davis at the University of North Carolina—Wilmington campus on 16 February.

SOLITARY VIREO: Single birds were seen 10 miles apart in the Durham, N.C., area on 8 and 9 December by Charles Saunders. One was also noted in McCain, N.C., on 19 December by Libba Watson.

BLACK-AND-WHITE WARBLER: Noteworthy North Carolina reports were individuals at Durham on 9 December (John Horn, Charles Saunders), at Newport on 8, 13, and 20 December (John Fussell), near Fayetteville on 20 January (Philip Crutchfield et al.), and near Orton Plantation in Brunswick County on 2 February (Ricky Davis).

ORANGE-CROWNED WARBLER: The first winter record for the Clemson area was one seen near Townville on 11 February by Harry LeGrand.

CAPE MAY WARBLER: Very rare winter sightings were singles seen at Raleigh (CBC) on 16 December by Gail Whitehurst, and at McCain, N.C., on 19 December by Libba Watson.

OVENBIRD: One was seen on the Aiken, S.C., CBC on 26 December by Anne Waters.

COMMON YELLOWTHROAT: A rare mountain winter record was a male seen by Harry LeGrand et al. near Oconee State Park, S.C., on 10 February.

BREWER'S BLACKBIRD: Gail Whitehurst saw a male in her Raleigh yard on 19 January.

BLUE GROSBEAK: Individuals were observed on CBCs at Durham on 17 December (Dennis Alwon et al.), and at Chapel Hill on 31 December (Jim Pullman, Elizabeth Teulings), as well as at a feeder near Easley, S.C., from 17 January to the end of the month (Adair Tedards).

EVENING GROSBEAK: Despite very low numbers of the winter finches in the Carolinas this winter, a surprising 300 were noted at Carol Hamilton's feeders in Chapel Hill during the last half of February.

HOUSE FINCH: The species was again locally abundant in Raleigh and Winston-Salem, and 150 were at Carol Hamilton's feeders in Chapel Hill on 18 February. At long last the Southern Pines, N.C., area has its first House Finch record: four seen at Whispering Pines on 18 December, fide Jay Carter.

COMMON REDPOLL: Over the past several winters a moderate number of reports of redpolls at feeders in the Carolinas have been received and published. However, I am now aware that on several occasions inexperienced observers have identified House Finches as redpolls. Since House Finches winter commonly at feeders in our region, and redpolls are very rare, it seems likely that some of the recent published records are actually of House Finches. I must now insist on full, convincing details on all redpoll reports, and I ask that experienced birders corroborate any redpoll report they might receive, especially at a feeder.

GRASSHOPPER SPARROW: Notable in winter were single birds in a Pinehurst, N.C., yard from 7 February to the end of the month, as seen by Marion Jones and Jay Carter; and near Townville, S.C., on 10 January and 11 February, as noted by Harry LeGrand.

DARK-EYED (OREGON) JUNCO: One was seen nearly daily in a Columbia, S.C., yard from 17 January to at least 7 March by Lucy and Edward Whitmire and Kay Sisson.

TREE SPARROW: A rare coastal plain record was as many as five at a feeder in Corapeake, N.C., during the winter. Danny Bystrak verified the report by observing two on 18 February.

LAPLAND LONGSPUR: Excellent numbers for the Carolinas were 20 at a plowed field near Townville on 10 January (Harry LeGrand), and 30 there on 27 January (Sidney Gauthreaux).

BOOK REVIEWS

VIRGINIA'S BIRDLIFE: AN ANNOTATED CHECKLIST

YuLee R. Larner, checklist committee chairman. Virginia Avifauna Number 2, Virginia Society of Ornithology, Inc. May 1979. 118 p. Index. 6 x 9 inches. Paperback. \$4.50 postpaid. Available from VSO Treasurer, 520 Rainbow Forest Drive, Lynchburg, Va. 24502.

Essentially a revision of J.J. Murray's *Check-list of the Birds of Virginia*, which was published in 1952, *Virginia's Birdlife* summarizes the state's published records through May 1978 and includes many unpublished records through December 1978. The new list is dedicated to the memory of Dr. Murray and John H. Grey Jr., whose early work on the revision was ended by his death on 9 September 1971. Dr. Grey, as many CBC members no doubt recall, was the first editor of *Chat*.

This attractive and carefully prepared checklist is an appropriate celebration of the fiftieth anniversary of VSO. An outline map of the state is conveniently located inside the front cover. The introduction is clear and concise. The large type, boldface subheadings, and straightforward text make this publication easily understood even by those unfamiliar with Virginia's geography.

Of the 400 species listed, 380 are fully documented and 20 hypothetical. For each documented species, the account gives the common name, scientific name, and breeding status on the first line. Following this in most cases are three boldface subheadings for the geographic regions: Coastal Plain, Piedmont, and Mountains and Valleys. The status is given in telegraphic style for each region. Information includes relative abundance by seasons, normal arrival and departure dates for species that are not permanent residents, nesting data for breeders, and peak counts. If there is no record for a region, there is a statement to that effect. The committee wisely avoided the confusing symbols and abbreviations dear to the hearts of many checklist compilers. Even the device of placing the common names of hypothetical species in parentheses is clarified by the use of the boldface subheading Hypothetical in place of the geographic region. Individual records are given for hypothetical species, but literature references are not cited. The subheading Accidental precedes the list of records for some species that are documented but do not occur frequently enough to warrant treatment by regions. The subheading Extinct is used where appropriate.

The weak spot in *Virginia's Birdlife* lies in the selection of terms for relative abundance. The committee chose to use only five: accidental, rare, uncommon, common, and abundant. When only one term must cover the broad range between uncommon and abundant, obviously some common species will be much more numerous than others. Use of uncommon to common and common to abundant can be misleading if the species is never truly uncommon or abundant. Therefore, I think future editions of the Virginia checklist would benefit from the introduction of the terms very common and fairly common to describe species at the upper and lower ends of the common range. This would permit reservation of the term abundant for those species seen by the thousands and the term uncommon for those that occur regularly but in very small numbers.

Virginia's Birdlife is a valuable publication that should be welcomed by everyone who is interested in the birds of eastern North America. Carolina bird students can study it to learn which species are extending their ranges southward and may soon appear in our region. The many records from Kerr Reservoir represent birds that possibly visited North Carolina as well as Virginia. Indeed, the birdlife throughout our northern tier of counties closely resembles that of southern Virginia because of our shared river systems.

Congratulations to the VSO checklist committee for a job well done. Publication of *Virginia's Birdlife* should insure a great beginning for the society's second 50 years.—EFP

PROCEEDINGS OF THE WORKSHOP: MANAGEMENT OF SOUTHERN FORESTS FOR NONGAME BIRDS (Held 24-26 January 1978, Atlanta, Georgia)

R.M. DeGraaf, technical coordinator. Forest Service General Technical Report SE-14. This publication may be obtained free of charge by writing Publications and Information

Services, USDA Forest Service, Southeastern Forest Experiment Station, P.O. Box 2570, Asheville, N.C. 28802.

The published report of this workshop includes a set of 14 papers. Two papers present general views that appear to be administrative positions. One of these is the keynote address by Michael D. Zagata, *Management of Nongame Wildlife—A Need Whose Time Has Come*. The other comes under the heading of *Research Plans*. There are three sketches that deal with specialized bird groups—raptors, cavity nesters, and wading birds. A single paper is devoted to census techniques. The eight remaining papers recount various aspects of avian community ecology. Three deal with the structural and/or organizational levels of avian communities, and five are mostly accounts of the birdlife in the major forest types in the Southeast with emphasis on the types of management presently used.

The workshop was organized around four main topics. *Forest Ecosystem Structure and Functions and the Effects on Birdlife* contains an odd assortment of papers, none of which address the topic. The keynote address, which introduces and otherwise brings together the general concepts of the workshop, is placed here. In a paper by Sidney Gauthreaux on the organization and structure of bird communities in forests, there is a modicum of energy dynamics, but his comments are directed at the community level rather than the ecosystem. Nevertheless, this paper provides an excellent review of the entitled subject matter. The ideas are thoughtfully and adequately developed. They are presented in a most logical and understandable manner. However, for the casual reader this paper may be too literature oriented.

Effects of Management on Nongame Birds consists of a set of papers that are at least consistent with the announced topic. All except one by B.R. Noon and K.P. Able are review papers. The Noon and Able paper compares the structure of an avian community from two distant areas, the northern and southern Appalachian Mountains. It is one of the refreshing spots in this set of papers if only because it is an original piece of work. The thesis is well designed and thoroughly developed; however, for a general audience it is perhaps a little rigorous as to theory and mathematical application. The remaining papers contain mostly descriptions of the birdlife of the major kinds of forest. The accounts of timber management as practiced in these southeastern forests are understandable and well discussed. The implications of this management on nongame "bird communities" are also discussed. Nevertheless, one would have hoped for a more enlightened and authoritative position than was presented in most of these papers.

The third topic deals with management of birds in specialized habitats. Included here is a very fine paper by Chandler S. Robbins dealing with census techniques for forest birds. It is very organized, thorough, and instructive. Bird students should find much useful information here! The papers on specialized bird habitats were generally a disappointment. In the descriptive narrative the story is at least presented, but the supportive material is deficient.

Research Topics contains a single paper, which in a descriptive and general manner offers a summation of the workshop.

Although most of this workshop was devoted to discussions of descriptive community ecology, there appears to be some latitude in what constitutes an avian community. For example, K.E. Evans apparently considers the kinds of birds inhabiting a particular plant association as constituting that community of birds (see p. 76-86), whereas H.H. Shugart et al. appear to regard the taxonomic groups of birds as communities—the "entire woodpecker community" (see p. 11). Still another view is that the avian community consists of the seasonally resident birds in a particular plant association (see p. 55-59 in J.M. Meyers and A.S. Johnson).

An impression that emerges from reading the *Proceedings* is that nongame bird management is essentially tied to maintenance of suitable habitats. It seems generally agreed that forest management practices exert a profound effect on the avian communities through the manipulation of habitats (see p. 40-47 in G.W. Wood and L. Niles). However, Gauthreaux (p. 29-30) indicates that many of the criteria that have been used to delineate avian communities are not entirely adequate or necessarily sufficient. He further notes that many more factors should be considered, especially behavioral and climatic ones. Shugart et al. (p. 14-15) also rightly conclude that in addition to habitat requirements, niche relationships

might be used as focal points in further studies. Here we see something that is perhaps a basic flaw in the workshop: There has been an overemphasis on habitat-community relationships with very little attention paid to the role or importance of birds. Such considerations might conceivably reveal that birds instead of being a custodial commodity or liability to which we have fallen heir might actually be a generally untapped resource.

Unfortunately, a number of mistakes and shortcomings were uncovered. Titles of three of the papers do not entirely agree with the table of contents (see p. 17, 40, and 90). There is no caption or designation for a set of data on page 32. There is no indication of what the solid circles mean in Figures 3 and 4 on page 56. There is a typographical error in Tables 1 and 2 on page 91; the common name of yellow poplar should not be hyphenated. In Table 2 on page 25, a footnoted reference to Leith and Whittaker 1975 does not appear in the Literature Cited (p. 30-37).

In addition to the relatively minor flaws such as those mentioned above, a variety of deficiencies, omissions, and errors of a more substantive nature were found in some of the supportive elements. This has the unfortunate effect of weakening and/or altering the statement as well as of causing a loss of confidence in the narrative. The differences in the bird list in Table 3 on page 79 rather than reflecting the "edge effect" on breeding populations of birds could as easily be explained from the differences in geography. This is also a possible interpretation of data in Table 6 on page 84 of over-wintering birds in a given forest type but in different geographic regions. In an item that aims to discriminate among a number of species of warblers, there is confusion under the heading of feeding sites because the list includes a mixture of feeding niches, habitats, and nesting sites (see p. 83).

In Table 1 on page 77, data are included ostensibly to show the effects of closure of the crown on understory plants. Only 5 of the 25 items clearly show this influence. Any differences in the remaining items could as easily be shown to be the result of differences in habitat. Furthermore, nine of the listed entries are arborescent species.

Two species of birds, the Anhinga and Double-crested Cormorant, are included in Table 1 on page 137 with wading birds. These birds may nest with herons and egrets, but they are not wading birds. The list of Common Southeastern Raptors (p. 133) contains a bothersome amount of inconsistency. If Arctic Peregrine Falcon, Barn Owl, Burrowing Owl, Everglade Kite, Golden Eagle, Mississippi Kite, Pigeon Hawk, Short-eared Owl, and Southern Bald Eagle can be considered common and Southeastern, then why were Caracara, Goshawk, Long-eared Owl, Rough-legged Hawk, Saw-whet Owl, and Short-tailed Hawk not included? Likewise, if it is necessary to include some of the subspecies of raptors occurring in this region, why not include all of them?

A list of 17 species of birds that use cavities in dead trees in the longleaf-slash pine forest is given in Table 1 on page 47. The White-breasted Nuthatch is a rare visitor in the longleaf-slash pine forests of the North Carolina "Sand Hills," but it is more numerous in the deciduous forests. The American Kestrel and Red-breasted Nuthatch are only winter visitors. Inclusion of the Yellow-bellied Flycatcher is erroneous as it is not a cavity nester and does not breed or winter in the Southeast. However, three species were inadvertently omitted. The Yellow-bellied Sapsucker is a regular winter resident. The Red-headed Woodpecker and—unfortunately—the Starling are nesting species.

In the rather busy table on page 6, there is some lack of form, clarity, and precision. The following axiomatic statements do not hold true for at least parts of the coastal plain of North Carolina: Typical overwintering species are nonwoodland birds. . . . Between seasons both the density and diversity of woodland birds is highest during migration, next highest during the breeding season, and lowest during the winter. . . . The annual species composition of dominant species is constant from year to year.

The concept of this workshop is an interesting one, and the published report contains much useful information. Because the time has not only come but well nigh passed for a number of nongame birds, one should expect a tad more care in the preparation of the papers. I hope this publication is but a preliminary report rather than the textbook on nongame bird management in Southeastern forests.—PHILIP J. CRUTCHFIELD

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An *Index to the Chat, Volumes 26-40*, compiled by Eloise F. Potter, is now available free to CBC members. It was printed as a courtesy to Carolina Bird Club by the North Carolina State Museum to facilitate ornithological research in the Carolinas. The club is grateful to the Museum for this moral and financial support.

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OUR COVER—Keith L. Bildstein photographed a third-winter male Marsh Hawk at a harrier communal roost field (cut winter wheat) in south-central Ohio. Dr. Bildstein's paper on winter hawk population trends in the Carolinas appears elsewhere in this issue.

UNVERIFIED SIGHT RECORDS OF SEABIRDS IN NORTH CAROLINA WATERS

DAVID S. LEE and STEVEN P. PLATANIA

Five seabirds not officially recognized as occurring in North Carolina's offshore waters have been sighted off Oregon Inlet between June 1977 and the present. These observations are, for the most part, probably inadequate for admission of the species to the state list. Our intent here is to inform bird students of these unverifiable occurrences so they will be aware of the possibility of encountering these species during those brief observation periods typical of offshore field trips. Although some of this information was available when the paper concerning additions to North Carolina's seabirds (Lee and Rowlett 1979) was submitted for publication, these birds were intentionally not included with those documented by specimens.

ALBATROSS

John B. Funderburg and Lee sighted a single albatross on 17 April 1978, 59 km SE of Oregon Inlet, Dare County, N.C. The large bird was soaring away from the boat low over the surface of the Gulf Stream. The only field marks observed were a light back and dark wings, suggestive of a Yellow-nosed Albatross (*Diomedea chlororhynchos*). During the brief observation the angle of view was such that an adequate check of other field marks was not possible. A bird assumed to be the same individual was seen 2 days later by the crew of the Oregon Inlet charter boat *Gal-O-Mine*. The captains at Oregon Inlet also reported single October 1976 and 1978 sightings of albatrosses. DuMont (1973) reported sighting two birds that appeared to be Black-browed Albatrosses (*D. melanophris*) off North Carolina, but the CBC Records Committee (see Parnell et al. 1978) did not accept the record as Black-browed. Harry LeGrand (pers. comm.) saw the individuals reported by DuMont, noting especially the under-wing patterns, and believes they were Black-browed. Even though specific identification was not made on the boat, because it was necessary to check numerous sources, LeGrand noted that the wing pattern excluded all other species. David Johnson (pers. comm.), who was also on the boat with DuMont, had no doubt that the birds in question were albatrosses but did not see enough field marks to confirm species identity. The dilemma of accepting sight records of albatrosses for the Atlantic Coast of the United States was discussed by McDaniel (1973). There is no doubt that albatrosses occur in Carolina offshore waters, but species confirmation is still needed.

LITTLE SHEARWATER

On 14 November 1978 we observed two or four birds that were probably Little Shearwaters (*Puffinus assimilis*) approximately 85 km SSE of Oregon Inlet. Two birds were watched for about 1 minute at 0940 at 35° 11'N, 75° 03'W, and two (possibly the same birds) were seen at 1240 at 35° 13'N, 74° 51'W. The latter were pursued for about 4 minutes at a speed of 43 to 47 kmph. Although we were able to keep up, we were unable to overtake the birds.

The first encounter was 0.8 km W of the inner edge of the Gulf Stream (water temperature 17.5°C); the second was along the inner edge (water temperature of Gulf Stream 24.4°C). The birds flew only about 1 meter above the surface, alternating a rapid flapping and short, gliding flight pattern. Wind velocity was less than 8 kmph and may account for seemingly abbreviated periods of gliding. When we first saw them from a distance, we thought they were alcids; but as we moved closer, it was obvious that they were small shearwaters. At no time were we closer than 30 m, and at this distance the birds appeared virtually tailless. Although face patterns were not observed, it was apparent that these black-and-white shearwaters were not Audubon's (*P. lherminieri*) or Manx Shearwaters (*P. puffinus*) because of the combination of small size, rapid wingbeat, and very short tails. We are familiar with both of these species under field conditions at sea and feel certain that the birds observed were not either; thus, our specific identification is based largely on elimination processes.

Post (1967) summarized the five reported sight records of *P. assimilis* and two specimen records for the northwestern North Atlantic. He also discussed field identification (Post 1964). The only record for the southeastern coast is an August 1883 storm specimen from Charleston County, S.C. The present report is the first for North Carolina.

BLUE-FACED BOOBY

Captain Allen Foreman described to us a bird he saw on 7 July 1979 near the Diamond Shoal Light, Dare County, N.C. His description of the size, shape, coloration, and behavior of the bird left little doubt that it was a Blue-faced Booby (*Sula dactylatra*). Foreman and his mate both mentioned a large white bird, smaller than a Gannet (*Morus bassanus*), with a long pointed bill, a short tail edged with black, and dark wing tips. The mate saw the bird plunge below the surface (feeding), and for several minutes the bird flew around the boat. When both men were shown various bird identification books, they independently picked the Blue-faced Booby illustrations as being representative of the bird they saw.

On 11 July 1979, while we were surveying seabirds 65 km SE of Oregon Inlet, the captain of one of the other boats in the Oregon Inlet fleet radioed to tell us of a pair of unusual birds feeding around his boat. His description, although not as detailed as Foreman's, indicated the presence of two Blue-faced Boobies. The boat was about 2.4 km from us, but the birds were no longer there when we arrived.

Holmes (1966) reported the first sighting of the Blue-faced Booby in North Carolina on 7 June 1966 at Bogue Banks, recording field marks that left little question as to the specific identity. He noted that 3 days after his observation, Tropical Storm Alma, whose influence had been felt over a large area of the Caribbean Sea, pounded the North Carolina coast with rain and 81-kmph winds.

During the period of 5 through 7 July 1979, Captain Foreman and his mate observed massive flocks of shearwaters, primarily Cory's (*P. diomedea*), feeding on schools of squid migrating just below the surface of the Gulf Stream. The number of birds per flock was estimated to be 150 to 200, but occasionally flocks of thousands were encountered. Other captains from the Oregon Inlet fleet, as well as captains from as far south as Cape Hatteras, also encountered these heavy concentrations of shearwaters, commenting that they had never before seen such a congregation of birds. This activity persisted for 3 days (5-7 July). Four days later, during our seabird survey on 11 July, there was no evidence of these flocks. The shearwaters had apparently dispersed or followed the migrating squid, and only modest numbers of Cory's Shearwaters and other species were evident. Perhaps the boobies reported to us were initially drawn into the area by the unusual concentration of food.

BROWN BOOBY

Along with John E. Cooper and John Conners, we sighted what we believe was a Brown Booby (*Sula leucogaster*) on 10 May 1979 near the Diamond Shoals light. The bird was watched for about 4 minutes as it traveled from east to west, but at no time were we closer to it than 150 m. Its long pointed wings suggested a tern, but its flight pattern did not. The bird had a direct horizontal flight, flapping with deep, regular wingbeats at estimated heights of 8 to 11 m, then gliding forward and downward until 2 to 4 m above the ocean, followed again by flapping and repetition of the entire process. As the bird came closer, its contrasting brown dorsal and white ventral surfaces were apparent. The white extended onto the under wing. The tail was of modest length and pointed. It was a large bird but distance made it difficult to judge size accurately. It seemed as large as a Royal Tern (*Sterna maxima*) or larger, yet smaller than a Gannet, both of which had been encountered earlier that day. Cooper noted that the leading under surfaces of the wings were dark. Because we at no time had a distinct view of the head and neck, we can relate little about their shape or markings. (It should be mentioned, however, that the light bill of a Brown Booby would probably be difficult to observe at a distance.) We are able to confirm few other details. The combination of observed characters and distinctive flight pattern eliminated other North Atlantic seabirds. Nevertheless, the distance involved, our inability to confirm certain markings, and complete lack of experience with *Sula* suggest that future sightings should be required before

the species is admitted to North Carolina's hypothetical bird list. The Brown Booby has previously been reported as accidental in coastal areas of Massachusetts, New York, and South Carolina.

NODDY TERN

Along with Mike Browne, Fran Baldwin, and others, Lee observed two Noddy Terns (*Anous* sp.) feeding during a heavy rain in a tide line 13 km NE of Oregon Inlet. The birds, which were in association with Sandwich Terns (*S. sandvicensis*) and Common Terns (*S. hirundo*) were followed for about 20 minutes on 9 June 1977 before heavy seas forced us to leave. Their large size, wedge-shaped tail, and dark bodies and wings distinguished them from the other terns, although the weather, the seas, and the angle of view were unfavorable. We were twice within 10 to 20 m of the birds and were able to see the white cap on one individual. There are three other sightings of *Anous* in North Carolina: 29 August 1949 (Chat 15:33); 16 June 1974 (Am. Birds 28:890); and 3 September 1977 (P. DuMont et al., pers. comm.). Because distinguishing species of *Anous* in flight is difficult, North Carolina identifications of Brown or Black Noddy Terns are speculative and strongly influenced by geographic probability. [Brown Noddy Terns (*A. stolidus*) have since been collected in North Carolina. Details on NCSM specimens 7319, 7320, 7321, and 7352 will be published with other bird records resulting from Hurricane David.—ED.]

Western North Atlantic records of the species and species groups discussed here are extremely interesting. We hope that observers will make every attempt to document sight records with as many field marks and behavioral traits as possible. At the same time, they must realize that specific identifications may not always be possible. Extreme caution is advisable in the reporting of very rare species because sightings are so infrequent that a few erroneous identifications could completely mask specific patterns of seasonal, geographical, and ecological occurrence. We hope that the rationale for our conservative attitude in these particular sightings is understood, and that future observations will allow fully convincing documentation of field marks.

ACKNOWLEDGMENTS

Harry E. LeGrand Jr., John E. Cooper, and Chris Marsh commented on various drafts of this paper, and their help is greatly appreciated.

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North Carolina State Museum, P.O. Box 27647, Raleigh, N.C. 27611, 15 June 1979.

TRENDS IN THE NUMBER OF DIURNAL RAPTORS SEEN ON RECENT NORTH AND SOUTH CAROLINA CHRISTMAS BIRD COUNTS

KEITH L. BILDSTEIN

Abstract. Analysis of 90 Christmas bird counts for the years 1971-1976 reveals a substantial increase in the number of diurnal raptors seen in the Carolinas.

Recent declines in East Coast winter populations of several raptor species, including Red-shouldered Hawks (Brown 1971) and Peregrine Falcons (Hickey 1969), are well documented. In an effort to monitor recent populations of diurnal raptors wintering in the Carolinas, I analyzed data from 66 North Carolina and 24 South Carolina Christmas bird counts conducted during the winters of 1971-1972 through 1976-1977.

METHODS

My analysis is limited to those counts that were initiated at least 1 year prior to the first count analyzed and that were continuous in operation throughout the period surveyed. Fifteen Christmas bird count locations (11 in North Carolina; 4 in South Carolina) met these criteria. Although the coastal plain and piedmont are well represented by a number of counts, only one count location from the mountain region qualified (Fig. 1). The relative population index (Table 1) is based on the number of individuals of each species of diurnal raptor seen per 100 party-miles traveled for each of the winters from 1971-1972 through 1976-1977.

RESULTS

During the six winters surveyed 5,180 individuals of 15 Falconiform species were seen during 21,626 party-miles of travel. A species breakdown is given in Table 1. The most frequently seen species was the American Kestrel, followed by the Red-tailed Hawk, Turkey Vulture, Marsh Hawk, Black Vulture, Red-shouldered Hawk, Sharp-shinned Hawk, Cooper's Hawk, and Merlin. Each of these species exhibited an increase in the number of individuals seen per 100 party-miles traveled during the survey period. The remaining six species were seen infrequently (less than one bird per 1000 party-miles traveled) and sporadically throughout the survey period. Overall, the number of diurnal raptors seen increased steadily, with the exception of the winter of 1975-1976, throughout the early and middle 1970s. By 1976-1977 the number of individuals seen per 100 party-miles had increased 74% over the 1971-1972 level (Fig. 2).

DISCUSSION

One possible explanation for the increase in the number of raptors seen is that there were more observers per party in later years (LeGrand 1978). This does not appear to be the case. The number of observers per party fluctuated considerably during the 6 years, reaching a low of 2.36 observers per party in 1973 and a high of 2.77 observers per party in 1974. However, no trend was apparent, and the number of observers per party was only 4% higher in 1976 than it was in 1971 (2.63 versus 2.74).

Although variations in weather influence the behavior or wintering diurnal raptors (Schnell 1967, Bildstein 1978) and are known to affect the number of Red-shouldered Hawks seen on Christmas bird counts (Brown 1971), weather conditions did not appear to be responsible for the increase in raptors seen during the survey period. The increase in the number of raptors seen per 100 party-miles was not correlated with changes in weather on count days. In fact, overall, weather during the first four winters was quite similar. While the severe winter of 1976-1977 may explain increases in the numbers of Turkey Vultures,

TABLE 1. Number of diurnal raptors seen per 100 party-miles of Christmas bird counts.¹

<i>Species</i>	<i>Year: 1971</i>	<i>1972</i>	<i>1973</i>	<i>1974</i>	<i>1975</i>	<i>1976</i>	<i>6-year mean</i>
Turkey Vulture	2.02 (66) ²	2.60 (87)	2.44 (85)	2.63 (90)	3.97 (166)	4.69 (183)	3.06 (112.8)
Black Vulture	1.22 (40)	2.03 (68)	0.97 (34)	2.30 (79)	4.47 (187)	4.12 (161)	2.52 (94.8)
Sharp-shinned Hawk	0.61 (20)	0.78 (26)	0.89 (31)	1.20 (41)	1.00 (42)	1.28 (50)	0.96 (35.0)
Cooper's Hawk	0.37 (12)	0.39 (13)	0.37 (13)	0.49 (16)	0.57 (24)	0.61 (24)	0.46 (17.0)
Red-tailed Hawk	2.84 (93)	4.36 (146)	5.13 (179)	5.75 (197)	4.97 (208)	5.71 (223)	4.79 (174.3)
Red-shouldered Hawk	0.70 (23)	0.78 (26)	1.12 (39)	1.11 (38)	0.86 (36)	1.41 (55)	1.00 (36.2)
Broad-winged Hawk	0.03 (1)	0.09 (3)	0.06 (2)	0 (0)	0.02 (1)	0 (0)	0.03 (1.2)
Rough-legged Hawk	0 (0)	0 (0)	0.03 (1)	0.06 (2)	0.07 (3)	0.03 (1)	0.03 (1.2)
Golden Eagle	0.03 (1)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0.01 (0.2)
Bald Eagle	0.03 (1)	0.36 (12)	0 (0)	0 (0)	0.02 (1)	0 (0)	0.07 (2.3)
Marsh Hawk	2.66 (87)	2.27 (76)	3.04 (106)	3.62 (124)	2.75 (115)	2.76 (108)	2.85 (102.7)
Osprey	0.03 (1)	0.09 (3)	0 (0)	0.03 (1)	0.02 (1)	0.08 (3)	0.04 (1.5)
Peregrine Falcon	0.06 (2)	0 (0)	0.03 (1)	0.06 (2)	0.02 (1)	0.05 (2)	0.04 (1.3)
Merlin	0.21 (7)	0.24 (8)	0.23 (8)	0.18 (6)	0.29 (12)	0.38 (15)	0.26 (9.3)
American Kestrel	6.69 (219)	5.44 (182)	6.19 (216)	9.71 (333)	7.99 (326)	9.17 (358)	7.50 (272.3)
Unidentified <i>Accipiter</i>	0 (0)	0 (0)	0.03 (1)	0 (0)	0.02 (1)	0.05 (2)	0.02 (0.7)
Unidentified <i>Buteo</i>	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0.10 (4)	0.02 (0.7)
All species	17.51 (573)	19.43 (650)	20.50 (715)	27.10 (929)	26.85 (1124)	30.44 (1189)	23.64 (863.3)

¹ Data taken from the following Christmas bird counts: Bodie-Pea Island, Central Beaufort County, Chapel Hill, Charlotte, Grandfather Mountain, Greensboro, Pamlico County, Raleigh, Southern Pines, Wilmington, and Winston-Salem, N.C.; Aiken, Charleston, Columbia, and Pee Dee area, S.C.

² Number seen per 100-party miles (actual number seen).

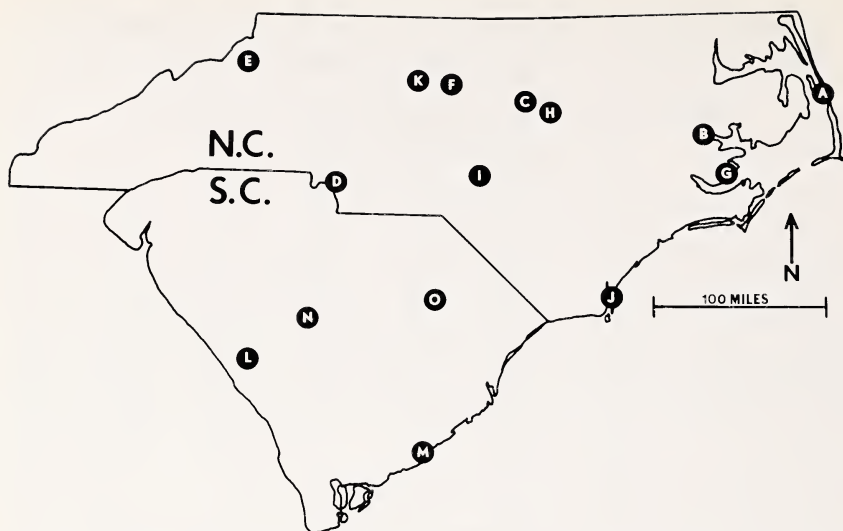


Fig. 1. Locations of Christmas bird counts used. A = Bodie-Pea Island, B = Central Beaufort County, C = Chapel Hill, D = Charlotte, E = Grandfather Mountain, F = Greensboro, G = Pamlico County, H = Raleigh, I = Southern Pines, J = Wilmington, and K = Winston-Salem, N.C.; L = Aiken, M = Charleston, N = Columbia, and O = Pee Dee area, S.C.

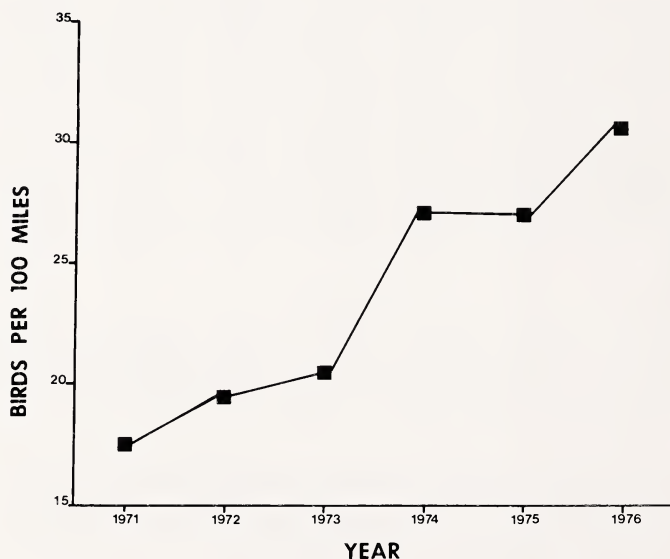


Fig. 2. Number of diurnal raptors seen on 11 North Carolina and 4 South Carolina Christmas bird counts during the winters of 1971-1972 through 1976-1977.

Red-tailed Hawks, Rough-legged Hawks, Marsh Hawks, and American Kestrels, species that normally winter in large numbers north of the Carolinas (Bystrak 1974), it cannot explain the substantial increase in these species between 1971-1972 and 1975-1976.

Harry E. LeGrand Jr. (pers. comm.) suggests that the number of diurnal raptors reported on the Christmas bird counts may be increasing because compilers are assigning the right people to the right territories and the participants are doing a better job of coverage with each additional year of experience. Certainly the "experience factor" cannot be ignored in the analysis of Christmas bird count data. Use of Christmas bird counts as population indices has been vigorously, and quite correctly, criticized (see for example Stewart 1954). Nevertheless, data presented in Table 1 indicate an upward trend in diurnal raptor populations that should be confirmed or refuted by more intensive and extensive surveys.

ACKNOWLEDGMENTS

I thank the compilers of and participants in the Christmas bird counts I used. Richard D. Brown and Harry E. LeGrand Jr. made helpful comments on the manuscript.

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Department of Biology, Winthrop College, Rock Hill, S.C. 29733, 14 September 1978.

SPRING BIRD COUNT—1979

JOHN O. FUSSELL III

Based on compilers' comments, I believe that the 1979 Spring Count will generally not be remembered with much enthusiasm. Of the 22 areas censused in both 1979 and 1978, 14 had lower species totals in 1979 (one was unchanged). Some compilers commented that their areas had noticeably poor migrations. However, in contrast to the poorer individual counts, the composite species and individual totals were similar to those of 1978. Total number of species found was 256 (257 in 1978), and the total number of individuals was 120,771 (117,697 in 1978). There were only 24 counts this year, but they had rather intensive coverage, a total of 506 field observers and 1771 field-hours.

On the coast, Morehead City had good coverage and turned up several uncommon migrants to tally a record 181 species. Inland, Raleigh managed a very respectable 152 species despite cool and windy weather.

Most counts had favorable weather. No count was hampered by rain and most counts had fairly light winds. However, several of the North Carolina piedmont counts held 5 May had rather windy conditions. In 1979, there were few frontal systems that created good birding, in contrast to 1978.

Five birds on the 1979 count are especially noteworthy. Wilmington's **Great Cormorant** (an immature) was near Carolina Beach. Could this be the same bird that wintered at Wrightsville Beach? Pamlico County's well-studied **Rough-legged Hawk** was unusual as well as very late, and the immature **Glaucous Gull** on the Pamlico River in Beaufort County was also unusual and late. The **Gray Kingbird** (Charleston) is seldom reported on the Spring Count; New Hope's **Western Tanager** (a female) was studied with a scope. Unfortunately, Raleigh's Class A bird, a **Scissor-tailed Flycatcher**, was unknown to Raleigh counters until after the count, although it was certainly present on count day.

Four Bald Eagles were reported: one immature in Cumberland County, an adult or subadult at Chapel Hill, and an immature and a subadult at New Hope. New Hope also had an **Olive-sided Flycatcher**, a species that is rare throughout the state. A total of 28 Bachman's Sparrows were reported at 6 localities; 15 of these were at Wilmington (Table 1). Most other

NOTICE TO COMPILERS OF CHRISTMAS BIRD COUNTS

As stated in the Summer 1977 *Chat* (41:57-58), Christmas bird counts taken in the Carolinas are no longer being published in this journal, and the Carolina Bird Club is not sending forms to compilers of these counts. In order that noteworthy records from the Christmas counts be mentioned in *Chat*, compilers are requested to send details of these sightings to Harry E. LeGrand Jr., Department of Zoology, Clemson University, Clemson, S.C. 29631. Reports of unusual Christmas bird count species will appear in "Briefs for the Files" in the Summer issue following the count.

Full details of noteworthy sightings are required on all counts submitted for publication in *American Birds*. Compilers may simply make an additional copy for Mr. LeGrand. Remember that details for each species should include date, location, name of observer(s), and number of individuals in addition to a description of the field marks.

This new procedure for reporting rare birds seen on Christmas counts will enable *Chat* to publish more details than will appear in *American Birds*. It will also place the highlights of the Christmas bird count in print along with the other interesting sightings from the Carolinas during the winter season. Your cooperation will be greatly appreciated.—EFP

AUDUBON CHRISTMAS BIRD COUNT DATES
Saturday, 15 December 1979 through Tuesday, 1 January 1980

TABLE 1. Selected species from the 1979 Spring Bird Count in the Carolinas.

Species	Total Individuals	Morched City, N.C.	Wilmington, N.C.	Charleston, S.C.	Beaufort Co., N.C.	Pamlico Co., N.C.	Dillon Co., S.C.	Cumberland Co., N.C.	Raven Rock State Park, N.C.—5 May	Southern Pines, N.C.	Columbia, S.C.	Raleigh, N.C.	Durham, N.C.	Chapel Hill, N.C.	New Hope River, N.C.	Greensboro, N.C.	Winston-Salem, N.C.	Iredell Co., N.C.	Charlotte, N.C.	Greenville, S.C.	Pilot Mtn. State Park, N.C.—28 April	Elkin-Ronda, N.C.	Caldwell Co., N.C.	Brevard, N.C.	Avery Co., N.C.
Brown Pelican	115	19	50	46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Glossy Ibis	120	50	60	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
White Ibis	468	227	25	216	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Turkey Vulture	370	12	15	26	7	11	-	1	1	105	2	1	21	71	105	8	9	23	2	21	1	8	2	21	5
Black Vulture	122	3	7	57	-	-	-	-	-	-	10	-	6	7	21	-	-	-	-	-	7	-	-	-	1
Swallow-tailed Kite	4	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mississippi Kite	16	-	-	3	-	-	-	-	-	-	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sharp-shinned Hawk	29	-	1	2	1	-	-	-	1	1	2	1	2	4	7	1	1	3	2	1	1	1	1	1	1
Cooper's Hawk	11	-	-	-	-	-	-	-	1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Red-tailed Hawk	190	4	1	4	4	2	*	5	8	7	14	17	10	16	26	4	19	14	13	2	14	1	2	3	*
Red-shouldered Hawk	83	5	3	21	-	1	4	3	-	2	3	4	3	12	8	4	1	1	4	-	-	1	3	-	-
Broad-winged Hawk	92	-	-	-	-	-	1	-	-	1	-	1	7	11	12	1	4	1	1	2	42	-	1	3	4
Marsh Hawk	10	-	-	-	-	-	*	-	-	-	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Osprey	138	25	41	21	6	9	*	1	-	2	2	3	*	-	12	8	2	2	1	2	3	1	-	-	*
Merlin	2	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
American Kestrel	22	2	-	-	2	-	*	-	-	-	2	1	-	-	-	-	-	-	-	-	-	3	1	1	2
Barn Owl	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	2	-
Screech Owl	77	6	-	-	-	2	-	5	1	-	-	4	3	2	9	4	15	10	1	-	-	12	2	1	-
Great Horned Owl	24	-	4	1	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-
Barred Owl	121	3	3	6	4	2	-	5	1	2	12	11	11	30	13	2	-	1	1	2	2	-	-	-	-
Red-cock. Woodpecker	23	*	5	9	1	-	1	1	-	2	3	1	-	-	-	-	-	5	10	-	-	-	-	1	-
Common Raven	29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	3	21
Red-br. Nuthatch	15	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Ruby-cr. Kinglet	72	1	2	1	2	-	-	*	-	-	9	6	14	5	6	4	5	2	1	6	2	3	3	4	5
Loggerhead Shrike	61	-	-	6	1	4	*	-	-	2	15	6	3	2	1	7	2	4	7	-	-	-	1	-	-
Blk.-thd. Gr. Warbler	52	7	1	27	-	1	-	-	-	2	-	2	20	4	3	2	3	1	1	-	-	2	12	-	4
Evening Grosbeak	38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	-	-	3	5	8	1
Purple Finch	28	-	-	-	-	-	-	-	-	-	-	13	6	-	-	-	14	12	1	-	-	-	6	2	-
House Finch	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pine Siskin	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bachman's Sparrow	28	1	15	8	-	-	-	1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total No. species	256	181	164	138	102	113	69	106	103	117	121	152	112	129	134	137	139	111	117	70	89	62	73	107	91
Total no. individuals	120,771	14645	9311	8478	3856	2294	1287	2197	2529	2686	5278	10823	4150	11771	6469	7517	7660	3066	4691	948	2254	978	2099	4075	1709
Field observers	506	27	23	15	21	9	3	7	11	13	16	33	22	78	44	28	44	13	19	10	10	12	11	35	2
Yard observers	83	5	0	0	4	0	2	2	0	0	1	5	1	18	0	0	2	1	2	6	0	3	16	15	0
Field parties	207	11	11	5	9	4	2	5	4	8	8	20	7	30	19	9	12	4	7	4	6	6	10	2	2
Field-hours	1771	98	97	46	71	71	17	36	35	69	60	160	61	217	156	91	118	36	66	36	82	45	18	58	31
Field-miles by foot	800	32	38	28	29	20	6	11	12	22	66	117	42	92	90	35	36	15	18	6	35	17	12	18	3
Field-miles by car, boat	4149	259	430	109	251	94	80	110	178	221	315	200	122	470	202	206	165	108	196	34	40	69	35	134	121

* Seen in area during count period but not on count day.

noteworthy sightings were of birds that are only locally unusual; these are cited in the compilers' comments.

On the negative side of the ledger, a total of only 120 Glossy Ibises reflects the decrease of this species as a nesting bird (Table 1). Again this year, no Purple Gallinules were reported, and the low total of 61 Loggerhead Shrikes is indicative of that species' slow but steady decline (Table 1).

In the 1978 census report, I noted the general increase in diurnal raptor numbers, and this was the case again in 1979. However, a large number of these birds were found in the Chapel Hill and New Hope count circles. Apparently many of these birds are present because of the clear-cutting in preparation for the Jordan Reservoir, and their numbers will probably decrease (at least in the New Hope count circle) when the reservoir is filled.

Winter finches were generally scarce this year; however, 40 House Finches were recorded (Table 1), and based on what I've heard, I'll predict more next year.

The quality of the 1979 reports was an improvement over 1978. (Nevertheless, many counts still have incorrectly added individual totals.) No birds were deleted from any count, and all truly rare reports had good to excellent details, although I had to write and request them in a few instances. Actually, I believe that the reports of the rarest birds are usually valid. However, I'm skeptical of many reports of late birds, birds that are common one day but have become rare two weeks later. It is easy at midday to "remember" seeing a bird earlier in the morning that one actually saw a few days previously (another good reason to record as you go). I was surprised to find out that some compilers do not know when certain species normally leave their areas.

Appreciation is extended to Harry LeGrand for his comments on rarities.

COMPILERS' COMMENTS

COAST

MOREHEAD CITY, N.C. (center: 0.7 mile NW of Crab Point in Newport River).

28 April. Good coverage turned up several slightly uncommon migrants and the result was a record total of 181 species. **Anhinga** (Compiler, Dwight Lee) was recorded for fourth straight year. Eight of the 9 adult Yellow-crowned Night-Herons were found during a census of Newport River heronries. The 3 drake Redheads and the drake Hooded Merganser were late. Commendable was the finding of 5 species of rails (including 3 Black Rails) and 29 species of shorebirds. The latter included an **Upland Sandpiper** (Alex and Sue Meadows), 14 White-rumped Sandpipers, and 9 Stilt Sandpipers. The Short-eared Owl (Alex and Sue Meadows) was slightly late. Notable migrants were 2 **Bank Swallows** (Allen Bryan, Kevin Hints, Dwight Lee), **Veery** (Rocky Tucker), 2 Water Pipits (late—Ricky Davis), 2 Blackpoll Warblers (early—Compiler, Ricky Davis, Jeannie Wilson), **Northern Waterthrush** (Skip Prange), and male **Scarlet Tanager** (Ricky Davis). **Bachman's Sparrow** (Compiler, Jeannie Wilson) is rare in count circle, but fairly common a few miles west.—JOHN O. FUSSELL III, 1412 Shepard Street, Morehead City, N.C. 28557.

WILMINGTON, N.C. (center: Monkey Junction).

21 April. Immature **Great Cormorant** was seen perched and in flight at 100 yards in good light by Jay Carter and Doug Nunnally. It was compared to nearby Double-crests. Carter is familiar with the species. Greg Massey observed the distinct white eye stripe of the singing **Tennessee Warbler** as close as 35 feet.—FRANCES NEEDHAM, Box 8207, Wrightsville Beach, N.C. 28480.

CHARLESTON, S.C. (center: 14 miles NE of Mt. Pleasant and 0.5 mile E of US 17).

29 April. Caper's and Deewee's Islands as well as the mudflats, estuaries, and marshes of Seewee Bay were not covered. Adequate coverage was also lacking for some mainland areas. Pete Laurie, Gardner Miller, and Perry Nugent observed all field marks of the **Gray Kingbird** as it fed in a pecan grove. An Eastern Kingbird was present for comparison. During the count

week, another, or possibly the same, Gray Kingbird was seen by Jay Shuler near McClellanville, 7 miles from the count sighting.—JULIAN HARRISON, Biology Department, College of Charleston, Charleston, S.C. 29401.

COASTAL PLAIN

BEAUFORT COUNTY, N.C. (center: entrance of Upper Goose Creek into Pamlico River).

22 April. John Fussell and Alex Meadows observed the all-whitish plumage and heavy bicolored bill of the immature **Glaucous Gull** in excellent light at 100 yards. It was feeding next to Great Black-backed Gulls and Herring Gulls in the Pamlico River. The Seaside Sparrow (John Fussell) was on the river shore in an area devoid of marshes; probably a migrant, it appeared to be exhausted.—GERALDINE COX, P.O. Box 162, Washington, N.C. 27889.

PAMLICO COUNTY, N.C. (center: in Florence at intersection of 1324 and 1329).

6 May. Gannets are common winter residents in the eastern part of Pamlico Sound, but the appearance of two near Oriental was a surprise. John Fussell observed the birds flying east from the Neuse early in the morning. Wade Fuller and Alex Meadows studied the **Rough-legged Hawk** over a field near Merritt. They commented on the dark-banded white tail, frequent hovering, and the fact that, although the bird was obviously a buteo, its shape and manner suggested a Marsh Hawk. The **Stilt Sandpiper** (Wade Fuller, John Fussell, Alex Meadows) was at a brackish impoundment. [Count was a record species total.—JF]—GERALDINE COX, address as above.

DILLON COUNTY, S.C. (center: Dillon).

30 April. [An additional 19 species were observed during the count period.—JF]—JOHN H. WILSON, Box 535, Dillon, S.C. 29536.

CUMBERLAND COUNTY, N.C. (center: Market Square in Fayetteville).

29 April. An immature **Bald Eagle** (Compiler) was well studied and well described. Two **Short-billed Marsh Wrens** (Compiler) were studied closely at the gravel pits; one was singing. The **Blue-winged Warbler** (Kevin Mason) was a male. A **Grasshopper Sparrow** (Compiler) near the gravel pits was in song. On 4 May, the compiler observed a male Lesser Scaup at the gravel pits.—PHILIP J. CRUTCHFIELD, 901 Montclair Road, Fayetteville, N.C. 28304.

RAVEN ROCK STATE PARK, N.C. (center: 1.5 miles NW of Lillington, N.C.).

5 May. In terms of individuals, the count would have undoubtedly been higher if the morning weather had been better.—ROBERT F. SOOTS JR., P.O. Box 216, Buies Creek, N.C. 27506.

SOUTHERN PINES, N.C. (center: 1 mile NE of Skyline).

29 April. A **Black-bellied Plover** and 4 **Willetts** were at Lake Surf (Steve Davis, Bill Lazar). This is the second spring record for the Willet. Swainson's Warbler was missed, which is very unusual. Night-heron (sp.) (Tom Howard) was seen at Johnson's Millpond at dusk.—J.H. CARTER III, P.O. Box 891, Southern Pines, N.C. 28387.

COLUMBIA, S.C. (center: intersection of Gill's Creek and Bluff Road).

28 April.—GILBERT BRISTOW, 2921 Blossom Street, Columbia, S.C. 29205

PIEDMONT

RALEIGH, N.C. (center: Norfolk and Southern RR crossing on Lake Wheeler Road).

5 May. Count was handicapped somewhat by cool, windy weather. The **Yellow-crowned Night-Heron** (Mary Weber) was at Shelley Lake. Two **King Rails** (several observers) were at the Greenview Marsh where a pair was present in 1978. Tom Howard found a **Red-cockaded Woodpecker**, first ever for the Raleigh count, at Schenck Forest. The nonsinging Warbling

Vireo was studied leisurely and very closely by a very competent observer (Bob Lewis). Carl Leibrandt saw a **Scissor-tailed Flycatcher** the day before and the day after count. Unfortunately, count participants did not find out about the bird until 2 days after the count.—R.J. HADER, 3313 Cheswick Drive, Raleigh, N.C. 27609.

DURHAM, N.C. (center: 1 mile N and 1 mile E of junction of Eno River and US 501).

22 April. Several water birds frequently seen in the area but rarely on the Durham spring count included 2 Canada Geese (Brian Danforth, Jim McConnell), and American Bittern in a marsh near US 501 (McConnell party), and 2 Double-crested Cormorants (Wagner party). Interesting but not unexpected warblers were a Blue-winged (Jim Weigand, Charlie Saunders) and a Cape May (Wagner party).—JOHN HORN, Department of Botany, Duke University, Durham, N.C. 27706.

CHAPEL HILL, N.C. (center: intersection of Columbia and Franklin Streets in Chapel Hill).

6 May. An adult **Yellow-crowned Night-Heron** (Norm Budnitz, Eric Garner, Daniel Kaplan) was at the location where a pair nested in 1977. Dennis Alwon and Mark Crotteau saw the adult or subadult **Bald Eagle** in good light at 500 yards. Bob Lewis heard the **Chuck-will's-widow** in Carrboro.—W.H. and MARGARET WAGNER, Route 2, Falls of New Hope, Chapel Hill, N.C. 27514.

NEW HOPE RIVER, N.C. (center: the point where SR 1700 crosses New Hope River).

29 April. The massive clear-cutting of our count circle in preparation for the B. Everett Jordan Lake significantly reduced the bottomland habitat in our count area while increasing the open country habitat and allowing the formation of a grassy, muddy, shallow-water area in the northern part of the count circle, which has been very productive of shorebirds. Again the New Hope area attracted several notable waterbirds: Common Loon, 5 Double-crested Cormorants, Great Egret, American Bittern (Barbara Roth), and Common Gallinule (Norm Budnitz and Eric Gardner). At least two **Bald Eagles** (a subadult and an immature) were seen by several people. A Turkey was closely observed by Barbara Roth. Unfortunately, the **Olive-sided Flycatcher** was not seen. Its song was heard by Annie Broughton, who is familiar with the species in the Adirondacks. Good descriptions were given for Worm-eating Warbler, Tennessee Warbler, Orange-crowned Warbler, and Cerulean Warbler. Steve Graves and Dan Kaplan observed the tanager bill and distinct wing bars of the female **Western Tanager** through a 20X scope. Kaplan is very familiar with the species. [Count is a record species total.—JF]—ANGELO CAPPARELLA, 400 West Main Street, Carrboro, N.C. 27510.

GREENSBORO, N.C. (center: transmitter tower of Radio Station WBIG).

5 May.—DONALD ALLEN, 2611 David Caldwell Drive, Greensboro, N.C. 27408.

WINSTON-SALEM, N.C. (center: intersection of I-40 and Silas Creek Parkway).

5 May. Warbler migration was rather poor, sparse, and late this year. Wilson's and Bay-breasted Warblers were not reported during migration this year, which is very unusual for the Winston-Salem area. Jim and Pat Culbertson and Marbry Hopkins saw the adult **Double-crested Cormorant** on Salem Lake. Ramona Snavely and Rocky Tucker found the **Swainson's Warbler** at Reynolda Gardens 7 May.—RAMONA R. SNAVELY, 115 Plymouth Avenue, Winston-Salem, N.C. 27104.

IREDELL COUNTY, N.C. (center: South Yadkin River Bridge on Chipley Ford Road).

5 May.—SAM CATHEY, 130 Park Street, Statesville, N.C. 28677.

CHARLOTTE, N.C. (center: intersection of South Boulevard and Woodlawn Road).

5 May. Flo Cobey, Laurie Gates, and Gayle Shields saw the Semipalmated Sandpiper. Gregg Cornwell and Louise and Randy Cross identified 2 Blue-winged Warblers at Latta Park.—W.A. BROKAW, 3611 Quail Ridge Lane, Matthews, N.C. 28105.

GREENVILLE, S.C. (center: intersection of highways 291 and 29).

28 April.—ROSA LEE HARDIN, Star Route Box 60, Cleveland, S.C. 29635.

PILOT MOUNTAIN STATE PARK, N.C. (center: intersection of US 52 at Pinnacle exit from US 52).

28 April.—E. WAYNE IRVIN, 3600 Penny Court, Raleigh, N.C. 27606.

ELKIN-RONDA, N.C. (center: intersection of US 21 and US 21-A, 3 miles N of Elkin).

2 May. [Count of 12 Screech Owls includes 8 young in nests.—JF]—LIN HENDREN, P.O. Box 148, Elkin, N.C. 28621.

CALDWELL COUNTY, N.C. (center: Lenoir).

30 April.—HELEN E. MYERS, 310 Beall NW, Lenoir, N.C. 28645.

MOUNTAINS

BREVARD, N.C. (center: 5 miles SE of Brevard at Rich Mountain Lookout Tower).

5 May. Best find was pair of **Philadelphia Vireos** observed by Gladys Reese and Hazel and Hervey Roberts. The birds were studied leisurely at close range; the male was singing.—WALTER C. HOLLAND JR., 290 Maple Street, Brevard, N.C. 28712.

AVERY COUNTY, N.C. (center: where SR 1514 crosses Wilson Creek).

11 May. [This is the same count circle that was previously named Grandfather Mountain. The total of 91 species is quite good, especially for only two observers.—JF]—MARGERIE PLYMIRE, Box 306, Linville, N.C. 28646.



Roundtable

... with Louis C. Fink

Harmony in Nature

"Harmony in Nature," a slide-illustrated science lesson for grades 4 through 6, is available free on 1-week loan to teachers and youth group leaders. The purpose of the lesson is to develop students' awareness of certain hawks and owls. The program introduces basic natural science concepts and vocabulary. For further information write: Society for the Preservation of Birds of Prey, Box 891, Pacific Palisades, Calif. 90272.

Cowbird Records Needed

Gail Whitehurst and Eloise Potter are gathering data on the breeding habits of the Brown-headed Cowbird in the Carolinas. They would appreciate unpublished records of nests with eggs or young and of foster parents feeding young out of the nest. Comments on behavior and population trends are also welcome. Please send information to Route 3, Box 114 AA, Zebulon, N.C. 27597.

Robbins Receives Allen Award

Chandler S. Robbins received the fourteenth annual Arthur A. Allen Award from the Cornell University Laboratory of Ornithology on 6 October 1979. He was honored for his many contributions to ornithology including senior authorship of the widely used field guide *Birds of North America*, editorship of *Maryland Birdlife*, and a distinguished career with the U.S. Fish and Wildlife Service. During more than 33 years with this agency, Robbins has been one of the principal developers of the nongame bird research and management program, particularly the highly successful Breeding Bird Survey. His recent work has focused on the effects of the fragmentation of the eastern deciduous forest on breeding birds.

CBC Members in Print

HELMUT C. MUELLER of the University of North Carolina at Chapel Hill is senior author of a paper with Daniel D. Berger and George Allez on "The Periodic Invasions of Goshawks" in the October 1977 *Auk* (94:652-663). The same three authors contributed "The identification of North American Accipiters" to the May 1979 issue of *American Birds*. The cover painting of that issue is a Marianas Fruit Dove by H. DOUGLAS PRATT, whose first published bird drawing appeared on the cover of the March 1967 *Chat*. Doug is also senior author of a paper on "America's unknown avifauna: the birds of the Mariana Islands" (*American Birds* 33:227-235).

DONALD A. McCRIMMON JR. contributed "Nest Site Characteristics among Five Species of Herons on the North Carolina Coast" to the April 1978 *Auk* (95:267-280). Research for the paper was conducted in the Morehead City area when Dr. McCrimmon was a graduate student at North Carolina State University. He is now associated with the Cornell Laboratory of Ornithology at Ithaca, New York.

LYNN J. MOSELEY wrote "Individual Auditory Recognition in the Least Tern (*Sterna albibifrons*)," which appeared in the January 1979 *Auk* (96:31-39). Research was conducted on Bogue Banks, Carteret County, N.C., while she was a graduate student at the University of North Carolina at Chapel Hill. Dr. Moseley is now teaching in the Department of Biology at Guilford College.

MICHAEL R. LENNARTZ and RICHARD F. HARLOW of Clemson University contributed "The Role of Parent and Helper Red-cockaded Woodpeckers at the Nest" to the June 1979 *Wilson Bulletin* (91:331-335). Those who attended the CBC papers session at Clemson last spring will recall the lively discussion of this topic that followed the presentation of Harlow's paper on the species.

Another Clemson faculty member, SIDNEY A. GAUTHREAUX JR., was mentioned prominently in an article on bird migration that appeared in the August 1979 *National Geographic*. One illustration shows approximately 2 million migrating songbirds illuminating the radar screen at a South Carolina airport. The map supplement for that issue features bird migration routes and is illustrated with 67 species of birds painted by Arthur Singer. Extra copies on heavy chart paper are available from the National Geographic Society, Washington, D.C. 20036.

MARCUS B. SIMPSON JR. edited "The Letters of John S. Cairns to William Brewster, 1887-1895" for the July 1978 *North Carolina Historical Review* (55:306-338). Their correspondence preserves many details of the early exploration of the bird life of the North Carolina mountains. Dr. Simpson is director of the Immunohematology Division at Walter Reed Army Medical Center, Washington, D.C.

JOHN HENRY DICK, whose bird drawings frequently grace the pages of *Chat*, has a new book scheduled for publication before Christmas. *Other Edens: The Sketchbook of an Artist Naturalist* is a record of Mr. Dick's expeditions to the North and South Polar regions, New Guinea, India, Africa, and other distant places. The 320-page book is illustrated with 168 line drawings by the author. Mr. Dick has provided color illustrations for a forthcoming field guide to the birds of India, and he is now painting the birds of China for a similar guide to that country.

General Field Notes

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A Survey of Whistling Swans Along the South Carolina Coast

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11 January 1979

South Carolina Bird Life (1970, p. 584) classifies the Whistling Swan (*Cygnus columbianus*), as a "rare winter resident seen mostly along the coast." During the winters of 1976-77 and 1977-78, I had an opportunity to census Whistling Swans by air and ground along the South Carolina coast from Myrtle Beach to Savannah. My surveys showed that Whistling Swans were concentrated at the four major locations given below. Numbers in parentheses indicate the maximum swan population wintering at each location. Huntington Beach State Park (15) and South Island Refuge (28), Georgetown County; Bull's Island (30), Charleston County; and Savannah National Wildlife Refuge (25), Jasper County. Another concentration point often used by swans is Doe Hall Plantation, Charleston County, which has reported up to 30 swans (*Chat* 36:33). I found a total of 98 swans overwintering along the coast. Little difference was noted in the number of swans between 1977 and 1978, although the population at Savannah National Wildlife Refuge was down in 1978.

It is possible that swans have been overlooked between Charleston and Savannah, where none have been found in apparently suitable habitat. Elsewhere in the state, a few swans have been seen in recent years at Lake Greenwood, Lake Hartwell, the Santee National Wildlife Refuge, and locations in Richland and Barnwell Counties. The state's total wintering swan population could approach 120 birds.

I believe that Whistling Swans are gradually increasing in South Carolina. A review of Christmas bird counts in *The Chat* from 1963 through 1976 showed five counts, all in the 1960s, that reported no swans, but all counts in the 1970s showed swans at one or more sites in South Carolina.

The principal Whistling Swan foods in South Carolina seem to be Widgeon Grass (*Ruppia maritima*) and Muskgrass (*Chara* sp.). Both plants are widely used for waterfowl management in the state.

This survey was made possible by a contract from the U.S. Fish and Wildlife Service to the Clemson University Agricultural Experiment Station.

Historical Record of the Swallow-tailed Kite from the South Carolina Mountains

JOHN E. CELY

Several years ago Simpson (*Chat* 36:69-72, 1972) reviewed the former status of the Swallow-tailed Kite in the southern Appalachians, especially in western North Carolina. Kites were regular late summer visitors in the North Carolina mountains during the 1800s but had almost disappeared by 1900. Simpson attributed this decline to a corresponding shrinkage in the breeding range of Swallow-tailed Kites in the upper Mississippi Valley; he

felt that birds breeding in the upper Midwest were migrating in the fall east and south down through the Appalachian Mountains.

Leverett M. Loomis, a capable ornithologist who worked in the South Carolina piedmont during the late nineteenth century, shed additional light on the occurrence of Swallow-tailed Kites in the southern Appalachians. In his paper "Summer birds of the mountain portions of Pickens County, South Carolina" (Auk 7:30-39, 1890), Loomis noted that Swallow-tailed Kites were "summer visitants in Oolenoy (Pickens County) and other valleys." On 6 August 1889, two kites were shot on Little Eastatoe Creek, 3 miles W of Mount Pinnacle. This locality is about 50 air miles S of the North Carolina mountains where kites were seen in the 1800s.

American Robin Breeding on South Carolina Coast

JAY SHULER

P.O. Box 288

McClellanville, S.C. 29458

12 September 1978

Although the American Robin (*Turdus migratorius*) breeds from the mountains to Summerville in South Carolina, Sprunt and Chamberlain (South Carolina Bird Life, 1949, p. 402) remark that "As yet, there is no record of its nesting directly on the coastal strip, but it appears to be coming closer steadily." E. Burnham Chamberlain and Webber Mott saw a young bird in Charleston in early July 1957, and Mrs. Paul E. Atwood reported one at Edisto Beach on 3 June 1956 (Supplement, South Carolina Bird Life, 1970, p. 618).

When I moved back to McClellanville in June 1971, I began to notice American Robins along the village streets, and found that residents considered it to be a breeding species. I was not able to locate a nest until 16 July 1977, when I observed an adult and made inquiries in the neighborhood. Henry Lofton pointed out an inaccessible nest about 45 feet up in the "Deer Head Oak." Although the young had fledged, Mr. Lofton assured me that he and his family had watched the adults feeding the nestlings many times during the spring. This pair did not return to the "Deer Head Oak" in 1978, but in August I saw several robins near the McClellanville School. Nelson Taylor, retired Forest Service Ranger and avid birder, told me these birds had been around all summer and that he felt sure they were nesting. He recalled that in 1972 a pair fledged young from a nest in an oak that overhung his kitchen window. He added that on the 1978 Charleston Spring Bird Count he saw a pair of American Robins copulating beside a road in Awendaw, about 15 miles SW of McClellanville. This observation was reported by Perry Nugent (Lesser Squawk 29(6):6).

The American Robin can now be considered a well-established breeding species in the vicinity of McClellanville.

ADDENDUM

On 4 May 1979, Nelson Taylor watched an American Robin fly to its nest about 30 feet high in a pine in his yard at McClellanville. It peered into the nest, then settled down as though to incubate or brood.

Tanagers at Hillsborough, N.C.

CHARLES H. BLAKE

Box 10

Hillsborough, N.C.

Received April 1979

During our first summer here (1957) I was surprised to find that there was an apparent breeding population of Scarlet Tanagers. Over the years the annual banding of Scarlet Tanagers has run about one-fourth the annual banding of Summer Tanagers. Undoubtedly some birds of each species have been migrants rather than local summer residents.

By about 1970 I was quite sure that the number of each species banded was much less than in the early years. One way of looking at this is to compute a moving

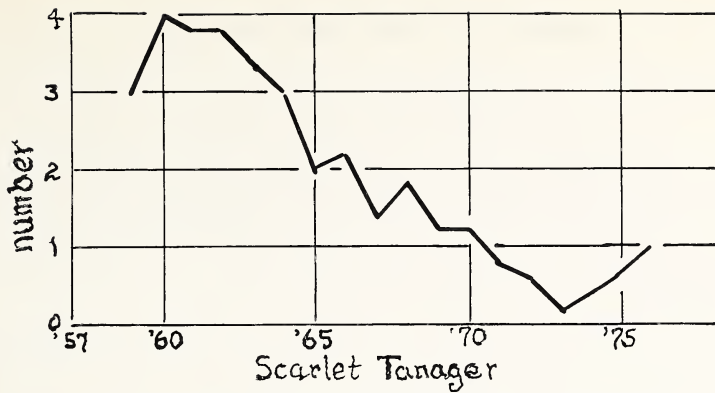


Fig. 1. Decline in the local Scarlet Tanager population based on banding results at Hillsborough, N.C. 1959-1976.

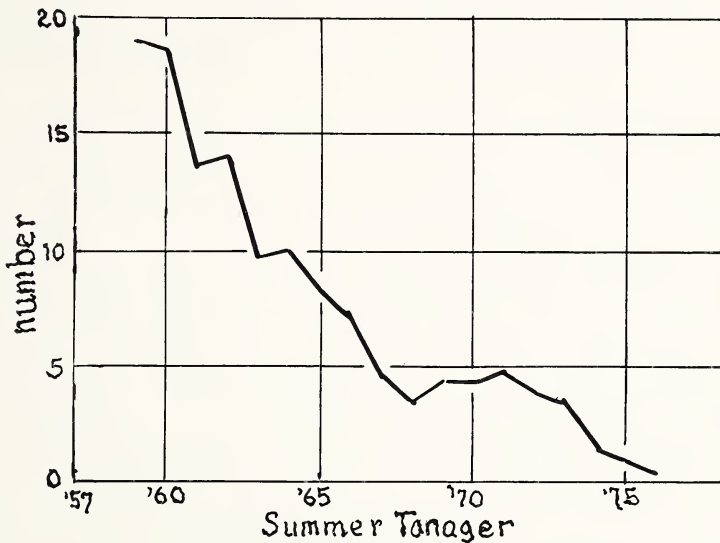


Fig. 2. Decline in the local Summer Tanager population based on banding results at Hillsborough, N.C. 1959-1976.

average. The two graphs (Fig. 1 and 2) are moving averages of 5 years referred to the middle year of the five. The banding effort was reasonably uniform until 1975. Beginning then there was some reduction to a level since maintained. It will be noted that 1973, the first year when this reduction could affect the average, merely carries on an already marked reduction of numbers relative to the numbers observed around 1960.

BRIEFS FOR THE FILES

HARRY E. LeGRAND JR.

(All dates 1979, unless otherwise indicated)

COMMON LOON: Late was one on a pond in Clemmons, N.C., on 31 May (Pat Culbertson, Barbara Page, Ramona Snavely), as was one near Fayetteville, N.C., on 15 May (P.J. Crutchfield), and up to three at Lake Pinehurst, N.C., from 22 May to the end of the month (Jay Carter).

HORNED GREBE: One was late on a farm pond near Cary, N.C., on 6 May, as noted by Ricky Davis.

PIED-BILLED GREBE: Nesting was again reported from newly constructed Jordan Reservoir in northeastern Chatham County, N.C., where Bill and Margaret Wagner saw an adult with three young on 14 June.

NORTHERN FULMAR: Rare were six seen by Dave Lee off Oregon Inlet, N.C., on 22 April, and nine were seen there the following day.

CORY'S SHEARWATER: Allen Bryan and Kevin Hints observed a very early individual at Oregon Inlet on 8 March. It was seen resting on the ocean and in flight, and the large yellow bill, dusky body color, and a small amount of white at the base of the tail were noted. Dave Lee reported four off Oregon Inlet on 23 April, and three in this area on 16 May.

GREATER SHEARWATER: Two noted by Dave Lee on 23 April off Oregon Inlet were somewhat early.

AUDUBON'S SHEARWATER: Surprising numbers for spring off Oregon Inlet were 22 on 23 April, 40 on 10 May, and 42 on 16 May, all seen by Dave Lee.

BLACK-CAPPED PETREL: Dave Lee had 13 off Oregon Inlet on 23 April, an excellent count; and two were seen there on 10 May.

LEACH'S STORM-PETREL: One seen by Dave Lee off Oregon Inlet on 16 May was a good find.

WILSON'S STORM-PETREL: Counts off Oregon Inlet (Dave Lee) were 79 on 23 April, 71 on 10 May, and 32 on 16 May.

GREAT CORMORANT: One was seen near Wrightsville Beach, N.C., on 10 March and again on 17 March by Alan Snavely and Sarah Tichnor.

DOUBLE-CRESTED CORMORANT: Quite unusual was a flock of 25 seen by Jay Carter between Red Springs and Lumberton, N.C., on 12 April. Other good inland counts were a peak of ten at Beaverdam Reservoir in northern Wake County, N.C., on 26 April (Steve Graves); a peak of five at Jordan Reservoir on 29 April (Jim Pullman, Elizabeth Teulings, Bob Lewis); and seven at White Lake, N.C., on 22 May (Douglas McNair). One was rare at Winston-Salem, N.C., on 12 May (Jim and Pat Culbertson), and late were singles near Pinehurst, N.C., on 24 May (Tom Howard) and at Jordan Reservoir on 11 June (Bob Lewis).

ANHINGA: John Fussell suspects nesting at Walker's Mill Pond near Newport, N.C., where he saw two males on 15 April and a female on 28 April.

MAGNIFICENT FRIGATEBIRD: One was rare and early at Wrightsville Beach, where it was seen by James Parnell, Robert Needham, and Frances Needham on 10 May.

CATTLE EGRET: Single individuals were noted at the upper end of Roanoke Rapids Lake, N.C., on 1 April (Frank Enders); at Clemson, S.C., on 13 April (Heyward Douglass, Sidney Gauthreaux, Harry LeGrand); at Hoffman, N.C., on 15 May (Jay Carter); and near Raleigh, N.C., on 19 May (Jim Mulholland).

GREAT EGRET: Rare in the piedmont in spring were single birds at the upper end of Roanoke Rapids Lake on 1 April (Frank Enders), near Townville, S.C., on 7 April

(Harry LeGrand), and at the Jordan Reservoir on 29 April (Jim Pullman, Elizabeth Teulings).

SNOWY EGRET: Very rare in spring were two seen at the Jordan Reservoir by Jim Pullman and Elizabeth Teulings on 26 May, and another was a good find on 1 April near Fayetteville, as noted by P.J. Crutchfield.

BLACK-CROWNED NIGHT-HERON: Rather rare inland reports were three seen by Frank Enders in mid-April along the Roanoke River near Williamston, N.C.; an adult observed from 13 to 20 April in Winston-Salem by Jim and Pat Culbertson et al.; and one seen quite late near Fayetteville on 29 May by P.J. Crutchfield.

AMERICAN BITTERN: A bird presumed to be a very late migrant was seen at Pullen Park in Raleigh on 30 May by Jim Mulholland. However, one heard calling at Buxton, N.C., on 3 June by James Parnell, Robert Soots, and Leon Jernigan was probably a breeding individual.

GLOSSY IBIS: Remarkable were 24 seen in flight over Fayetteville on 4 April by P.J. Crutchfield. Another rare sighting was that of one noted near Raleigh on 21 April by Clyde Smith.

AMERICAN FLAMINGO: An excellent count of eight was made by John Cely at Bulls Island, S.C., on 16 May; and four were seen the next day by John Andre on Bird Island, S.C.

FULVOUS WHISTLING-DUCK: One was quite unusual, especially in summer, at a pond at Buxton on 15 June, as noted by Sherman Suter and Terri Weyrauch.

BLACK DUCK: Merrill Lynch observed a pair near the Scuppernong River in Tyrrell County, N.C., on 7 June; and P.J. Crutchfield saw two at Fayetteville on 14 June.

PINTAIL: A male was late at Pea Island, N.C., as seen on 12 May by Bob Lewis and Mike Tove.

REDHEAD: Two females seen at Pea Island by Bob Lewis and Mike Tove were late on 12 May.

LESSER SCAUP: P.J. Crutchfield noted a male that was late near Fayetteville on 10 May.

COMMON EIDER: Very rare for South Carolina were one female observed by Bob Lewis at Huntington Beach State Park on 8 March and two females seen by Perry Nugent at Fort Moultrie on Sullivans Island on 14 April.

SWALLOW-TAILED KITE: Two were noted in the Holly Shelter swamp in Pender County, N.C., on 26 April by Mark and Cathy Galizio.

MISSISSIPPI KITE: A flock of 29 adults, a record North Carolina count, was observed in eastern Halifax County on 2 June by Merrill Lynch and Dwight Lee. This is the fourth consecutive year the species has been seen at this location, and breeding is likely occurring there.

ROUGH-LEGGED HAWK: One was late and rare near Chapel Hill, N.C., on 5 April, as reported by Bill and Margaret Wagner.

BALD EAGLE: Many inland reports were received, including several at Beaverdam Reservoir, where the best count was two adults and an immature on 26 May (Allen Bryan, Kevin Hints). Elsewhere an adult was seen in flight near Clinton, N.C., on 27 March by M.E. Whitfield; an immature was noted by P.J. Crutchfield near Fayetteville on 29 April; an immature was seen flying over Raleigh on 14 April by Kevin Hints; and Dennis Alwon saw two in the Jordan Reservoir area on 29 April and one of those two a week later at Chapel Hill.

MARSH HAWK: Possible breeding is indicated by a pair seen at Cedar Island, N.C., on 2 June, and another pair at Ocracoke, N.C., on 3 June, by James Parnell, Robert Soots, and Leon Jernigan. Another individual was late at Fayetteville on 10 May, as seen by P.J. Crutchfield.

PEREGRINE FALCON: Jay Carter noted one, or possibly two, very late near Hoffman, N.C., on 15 May.

MERLIN: Bob Lewis and Mike Tove reported a late sighting at Pea Island on 13 May; possibly the same bird was seen there on 22 May by James Parnell and Ricky Davis.

SANDHILL CRANE: One was noted by Donna Goodwin on 1 April near Shallotte, N.C., and it was seen several days later by Wayne Irvin and Fran Baldwin.

KING RAIL: Nesting may have occurred at Greenview Farm near Raleigh, where four were seen and heard on 5 May; one or more were still there on 26 May, as reported by Allen Bryan and Kevin Hintsa.

COMMON GALLINULE: Good inland finds were single birds seen at Winston-Salem from 12 to 26 May by John and Lee Carter and Bill and Susan Hammond; one was also seen at Jordan Reservoir near Farrington on 15 May by Bob Lewis.

AMERICAN GOLDEN PLOVER: Bob Lewis observed two birds at Jordan Reservoir on 21 April, a rare spring report.

BLACK-BELLIED PLOVER: At Jordan Reservoir near Farrington, Bob Lewis found two on 15 May, and Dennis Alwon saw three there on 20 May.

RUDDY TURNSTONE: A very rare inland report was that of a bird seen at Jordan Reservoir on 15 May by Bob Lewis. Dennis Alwon noted two there on 20 May.

LONG-BILLED CURLEW: An excellent count was three curlews at Morgan Island near Cape Lookout, N.C., on 13 March (Skip Prange). Two were also seen by Perry Nugent at Sullivan's Island on 20 May.

UPLAND SANDPIPER: Five seen by Chuck Whitney and George McCoy near Columbia, S.C., on 21 April was a good count for this uncommon species.

GREATER YELLOWLEGS: At the Jordan Reservoir area, Bob Lewis had an excellent count of 50 on 20 April, and one was seen very late there on 3 June by Jim Pullman and Elizabeth Teulings.

LESSER YELLOWLEGS: Bob Lewis noted 200 at the Jordan Reservoir on 20 April, an outstanding inland total; and one was late there on 27 May, as seen by Dennis Alwon.

PECTORAL SANDPIPER: A good spring tally of 30 birds was made by Bob Lewis at Jordan Reservoir on 21 April.

WHITE-RUMPED SANDPIPER: Bob Lewis and Mike Tove counted 200 birds, and estimated that 1000 were present, from Bodie Island to Cape Hatteras, N.C., on 11, 12, and 13 May. Inland, a good count was 15 at Jordan Reservoir noted by Lewis on 15 May, with six still there on 20 May (Dennis Alwon).

DUNLIN: Rare inland in spring were individuals at Clemson on 4 April (Harry LeGrand), and at Beaverdam Reservoir (R.J. Hader) and Jordan Reservoir (Bob Lewis) on 21 April.

SHORT-BILLED DOWITCHER: Dennis Alwon saw two at Jordan Reservoir on 20 May, a very rare inland spring record.

NORTHERN PHALAROPE: Dave Lee tallied 91 on a pelagic trip off Oregon Inlet on 10 May, and another was seen onshore at Pea Island on 22 May by James Parnell, Ricky Davis, and Leon Jernigan.

RED PHALAROPE: A good count of 1000+ was made by Dave Lee off Oregon Inlet on 23 April. Several other trips in previous years have also reported at least 1000 birds during April off the North Carolina coast.

POMARINE JAEGER: Dave Lee noted five off Oregon Inlet on 23 April.

LONG-TAILED JAEGER: An outstanding record was a sighting of an adult off Oregon Inlet on 23 April by Dave Lee. Most spring records have been in late May.

GLAUCOUS GULL: Kevin Hintsa and Allen Bryan observed an immature at Buxton on 7 March, perhaps the same bird that was seen there in February. Another immature was seen by Skip Prange at Cape Lookout on 22 March.

HERRING GULL: One was very late at Lake Wheeler near Raleigh on 3 June, as noted by Clark Olson. Jay Carter saw 10 in flight near Hoffman on 26 April.

BLACK-HEADED GULL: Two were seen on the beach at Oregon Inlet, with 20 Bonaparte's

Gulls for comparison, on 6 March by Steve and Marie Graves.

LAUGHING GULL: A rare inland report was one in breeding plumage seen at the upper end of Roanoke Rapids Lake on 1 April by Frank Enders.

BONAPARTE'S GULL: John Fussell and Bill Moffitt counted at least 5000 birds at Bird Shoal near Beaufort, N.C., on 8 April, an excellent total. Frank Enders had a good inland count of 120 at Roanoke Rapids Lake on 1 April.

LITTLE GULL: One in winter plumage was a surprising find on North Pond at Pea Island on 20 August 1978, as seen by Bill Drummond and Sherman Suter.

FORSTER'S TERN: Bill Wagner saw one at Beaverdam Reservoir on 24 March.

COMMON TERN: A late migrant was observed by P.J. Crutchfield near Fayetteville on 25 and 29 May.

SOOTY TERN: Wayne Klockner carefully studied an adult at the town of Hatteras, N.C., on 1 May, a noteworthy onshore report.

CASPIAN TERN: This species was noted in the eastern piedmont of North Carolina at Jordan Reservoir (29 March to 27 April), Beaverdam Reservoir (15 April), Prospect Hill (20 March), and Lake Surf near Vass (13 April). The peak count was six at Jordan Reservoir on 27 April, as noted by Dennis Alwon. This is the most regularly seen tern inland in the spring.

BLACK TERN: P.J. Crutchfield saw one near Fayetteville on 10 May. This tern has been reported less frequently inland in recent years than previously.

YELLOW-BILLED CUCKOO: One was extremely early at the west end of Bogue Banks, N.C., on 26 March, as seen by John Fussell et al.

BLACK-BILLED CUCKOO: A migrant was seen near Blanch in northern Caswell County, N.C., on 9 May by James Coman.

CHUCK-WILL'S-WIDOW: Tom Howard heard an early individual near Southern Pines, N.C., on 5 April.

COMMON NIGHTHAWK: Douglas McNair found a nest with one egg in the Sandhills Game Management Area near Hoffman on 23 May. Inland nesting away from cities and towns is rare.

SCREECH OWL: Mike Tove heard one calling at Richland Balsam, N.C., at an elevation of 6053 feet, on 5 May. This may be a high altitude record for the state.

RED-BELLIED WOODPECKER: One seen at 4200 feet on Big Ridge Road near Glenville, N.C., on 6 May by Harry LeGrand might be a high elevation record for the state.

GRAY KINGBIRD: Three individuals were observed along the South Carolina coast this spring. Jay Shuler noted one near McClellanville in mid-April, Perry Nugent et al. saw another at Awendaw Lake on 29 April, and Tom Reeves saw one on 20 May at Sullivan's Island.

WESTERN KINGBIRD: Quite unexpected was an individual seen on a telephone wire at Ocracoke, N.C., on 13 June by Sherman Suter and Terri Weyrauch. Excellent details were received.

EASTERN PHOEBE: Douglas McNair found an adult at a nest along the Cape Fear River at Elizabethtown, N.C., on 22 May. This is presumably at the southeastern edge of the species' breeding range.

YELLOW-BELLIED FLYCATCHER. A rare report was one seen and heard calling near Lake Keowee, S.C., on 19 May by Ramona Snavelly, Evelyn Dabbs, et al.

ALDER FLYCATCHER: The species was noted again in southern Haywood County, N.C., near the entrance to the Shining Rock Wilderness Area. Two singing males and two presumed females were seen there on 20 May by Bob Lewis, Mike Tove, et al.

WILLOW FLYCATCHER: Perry Nugent and Dennis Abbott saw and heard three migrants at Fairlawn Plantation near Charleston on 12 and 13 May, a very rare record for the coast.

OLIVE-SIDED FLYCATCHER: One was a good find in northern Caswell County on 20 May, as noted by James Coman.

- HORNED LARK:** Douglas McNair noted adults in late May at four localities in the Sandhills of the Carolinas, where the species is at the edge of its breeding range. In Richmond County, N.C., he saw a pair at the Rockingham-Hamlet airport, with one bird carrying food, and he noted three adults at Mangum. Also, McNair found three adults in northwestern Marlboro County, S.C., and he saw an adult carrying food at McBee, S.C.
- COMMON RAVEN:** One was at a low elevation (1800 feet) in Nantahala Gorge, N.C., on 10 April, noted by Mike Tove et al.
- FISH CROW:** Harry LeGrand and Sid Gauthreaux had three adults all spring and summer in a pine forest at Clemson, but the birds apparently did not breed. Jim Pullman and Elizabeth Teulings saw four in flight in southern Durham County, N.C., on 7 April, and two over the Duke University campus in Durham on 13 April. Durham lies along the western edge of the breeding range.
- BANK SWALLOW:** Ramona Snively reports that the nesting colony first discovered near Roaring River, N.C., in 1977 appears considerably larger in 1979 than in the past two summers. This is the only currently known breeding site in the state.
- CLIFF SWALLOW:** Rare coastal migrants were single birds seen by Joel Hornstein at Huntington Beach on 13 May, and by Mike Tove on 3 June approximately 40 miles off Topsail Island, N.C.
- BLACK-CAPPED CHICKADEE:** Harry LeGrand and Mike Tove watched an adult gathering nest material (fibers from a cigarette filter) at Newfound Gap, N.C., on 5 May.
- SHORT-BILLED MARSH WREN:** The first record for the Fayetteville area was two seen and heard there on 29 April by P.J. Crutchfield.
- SWAINSON'S THRUSH:** One seen by Gail Whitehurst at Raleigh was very late on 1 June.
- CEDAR WAXWING:** Jay Carter noted late flocks (20 and 12 birds) of this species in Southern Pines on 27 May.
- BLACK-AND-WHITE WARBLER:** Merrill Lynch found a singing male in cut-over pinewoods in central Gates County, N.C., on 1 June. Douglas McNair noted singing birds in Richmond County, N.C., on 21 May near Hoffman, 25 May at Cordova, and 27 May near the Pee Dee River. All of these reports probably represent breeding individuals.
- PROTHONOTARY WARBLER:** A rare mountain record was one seen by Duncan Hollar and Mike Tove near Cullowhee, N.C., on 23 April. Early arrivals were noted at Cape Lookout, N.C., on 28 March by Skip Prange, and in central Chatham County on 4 April by Bob Lewis.
- SWAINSON'S WARBLER:** Though well within the breeding range, one noted singing near White Lake, N.C., on 22 May by Douglas McNair adds to the somewhat sparse number of reported nesting sites in the coastal plain. One near Newport, N.C., was rather early on 12 April, as reported by John Fussell.
- WORM-EATING WARBLER:** John Fussell noted an early individual near Newport on 11 April. Merrill Lynch found two singing birds in western Gates County, N.C., on 1 June, and another just east of East Lake, Dare County, N.C., on 16 June.
- GOLDEN-WINGED WARBLER:** One was rare and somewhat late at Chapel Hill on 12 May, as seen by Mark Crotteau.
- ORANGE-CROWNED WARBLER:** Single individuals were seen in North Carolina at Orton Pond in Brunswick County on 13 April by Mike Tove, near Newport on 15 April by John Fussell, and near Cary from 15 to 28 April by Clark Olson.
- NASHVILLE WARBLER:** A very rare spring record was a singing male studied carefully by Gail Whitehurst at Raleigh on 30 April.
- BLACK-THROATED GREEN WARBLER:** Two singing males were noted by John Fussell at Brown's Island in Carteret County, N.C., on 14 April. Merrill Lynch reported six or seven singing birds in a white cedar forest in the Green Swamp in northern Brunswick

County, N.C., in April 1978. Lynch also had another in a white cedar bog forest along NC 211 near the Green Swamp on 9 April (1979). Although the sightings were in April, they probably represent breeding individuals.

CERULEAN WARBLER: A singing bird was rather rare at Raleigh, as seen by Jim Mulholland on 7 May.

BAY-BREASTED WARBLER: A rare spring coastal report was that of a male seen by John Andre on Bulls Island, S.C., on 11 May.

CONNECTICUT WARBLER: Clark Olson saw a female at Fort Macon State Park, N.C., on 26 May, an exceptional coastal report for the spring. Another was heard singing at Boone, N.C., on 27 May by Tom Haggerty.

WILSON'S WARBLER: The peak of the migration of this species through the Carolinas is in mid-May, as clearly evidenced by the reports of single birds at Clemson on 16 May (Harry LeGrand) and at Raleigh on 19 May (Gail Whitehurst) and 20 May (Clark Olson).

CANADA WARBLER: Douglas McNair saw a male on 22 May at Elizabethtown, N.C., somewhat east of the migration route for this species.

AMERICAN REDSTART: A subadult male seen by John Cely at Pawleys Island, S.C., on 5 June was probably a late migrant. On the other hand, four singing males along a one-mile stretch of the Cape Fear River at Elizabethtown on 22 May, as noted by Douglas McNair, were probably summer residents.

BOBOLINK: Douglas McNair noted individuals in Richmond County as late as 29 May.

WESTERN TANAGER: Daniel Kaplan and Steve Graves saw a female at close range near the Jordan Reservoir dam on 29 April, a very rare piedmont occurrence.

BLUE GROSBEAK: Jim Mulholland saw two in female plumage near Raleigh on 12 March. This date suggests wintering individuals.

HOUSE FINCH: The first South Carolina breeding record was detected by William Grimm in a residential section of Greenville. On 4 June, a begging young bird was seen with its parents, and two fledglings were with the adults on 9 June. Two adult males were seen by Grimm on 6 June. Nesting was again reported in Raleigh and Winston-Salem.

RED CROSSBILL: Duncan Hollar and Mike Tove noted 20 to 25 at Newfound Gap, N.C., on 17 March. The only downstate report for the winter-spring period was a banded individual that appeared in William Grimm's yard in Greenville, S.C., on 23 March and remained until 3 June.

GRASSHOPPER SPARROW: Rare Sandhills reports were single birds seen and heard near Fayetteville on 29 April (P.J. Crutchfield) and seen in a Pinehurst, N.C., yard from February through 17 March (Marion Jones).

DARK-EYED JUNCO: The first nest discovered in South Carolina was found by Ethel Floyd, Sid Gauthreaux, et al. on 19 May at the summit of Sassafras Mountain. Paul Hamel photographed and collected the empty nest a few days later. Several young were believed to have been successfully fledged.

LARK SPARROW: The first record for Cumberland County, N.C., was an individual studied at close range near Fayetteville on 18 May by P.J. Crutchfield.

CLAY-COLORED SPARROW: An extremely rare winter record was reported by Jay Shuler at his home near McClellanville, S.C. One to three birds were studied by him, as well as by other birders, from 28 February to 9 March.

LINCOLN'S SPARROW: One was seen near Chapel Hill on 7 April by Bill Wagner, Margaret Wagner, and Johnnie Payne.

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OUR COVER—American Woodcocks may begin courting in January and nesting as early as February. Jack Dermid photographed four buffy eggs laid in an unconcealed leaf-lined depression in the ground. The Solitary Vireo drawing by Doug Pratt on page 13 is reprinted from the March 1968 *Chat*.

FIRST EVIDENCE OF NESTING FOR THE BLACK-CAPPED CHICKADEE FROM NORTH CAROLINA

MICHAEL TOVE

Abstract.—The Black-capped Chickadee has long been known to breed in the southern Appalachian Mountains, but positive evidence of nesting within North Carolina has not been published. This paper offers evidence of breeding in the state. A preflight bird was banded and photographed. Sonagrams from recordings of the vocalizations of the young bird and its parents are compared with those of known Carolina and Black-capped Chickadees.

In his paper on the ecology and distribution of the Black-capped Chickadee (*Parus atricapillus*) in the southern Blue Ridge Mountains, Simpson (1977) pointed out that there are no published nest reports from North Carolina even though the species is known to be present in certain ranges throughout the year.

On 9 August 1978, I was recording the vocalizations of Black-capped Chickadees at the Richland Balsam overlook on the Blue Ridge Parkway in Jackson County, N.C. On a slope about 10 m above the roadway, I heard a chickadee-like call with which I was not familiar. A careful search revealed a preflight chickadee perched in a thick tangle of brush on the hillside. After recording its calls, I captured the bird by hand, banded, measured, photographed, and released it.

The young chickadee (Fig. 1) was still developing its juvenal plumage, but showed little or no natal down. Although the wing coverts and secondaries were completely grown, the



Fig. 1. A preflight young Black-capped Chickadee was captured and banded at Richland Balsam, Jackson County, N.C., 9 August 1978. (Photo by Michael Tove)

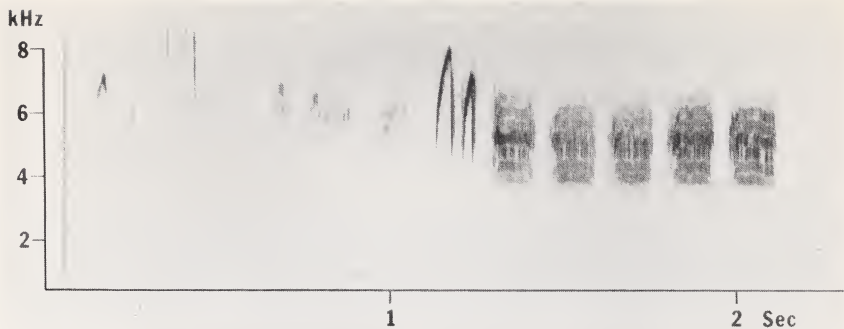


Fig. 2. The sonogram of the Chick-a-dee call complex of an adult chickadee that accompanied the young bird banded at Richland Balsam on 9 August 1978 shows marked similarities to the sonogram (Fig. 4) of the same vocalization given by a bird positively identified as a Black-capped. (Recording by Michael Tove)

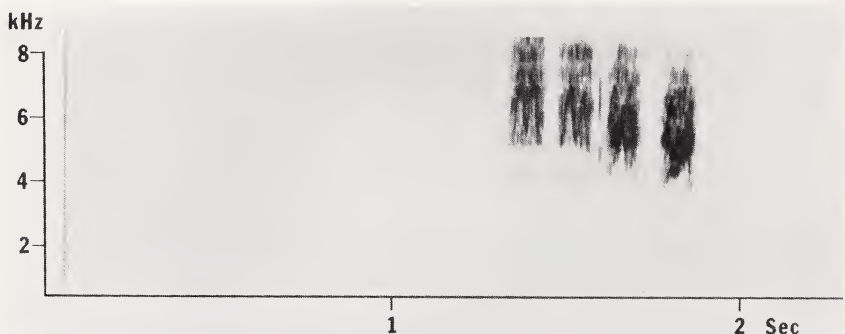


Fig. 3. The sonogram of the Begging Dee calls of the young bird banded and photographed (Fig. 1) at Richland Balsam shows the slow rate of delivery typical for the Black-capped Chickadee. (Recording by Michael Tove)

primaries and rectrices were still in sheath. The bill was not full-sized, but the legs and feet were fully developed. The bib was smaller than might be expected, and the buffy flanks were lacking. Otherwise, the fledgling resembled its parents. The bird was banded with an aluminum U.S. Fish and Wildlife Service band and a red plastic leg band. Its measurements were wing cord 47 mm, tail 31 mm, bill from nares 5 mm, and weight 8 g.

Bent (1964) noted that Black-capped Chickadees experience a partial postjuvenile molt around midsummer, but it involves only the contour plumage and wing coverts. This clearly was not the case with the young chickadee banded on 9 August because that bird was still acquiring its first flight feathers and not molting contour plumage or secondary coverts.

Three factors led to the identification of the preflight bird as a Black-capped Chickadee rather than a Carolina Chickadee (*P. carolinensis*), which is widespread and common in North Carolina and sometimes breeds at high elevations in the mountains (Tanner 1952).

First, the bird was found at an elevation above 1900 m, which is considerably higher than the usual 1250-1370 m region of contact between Black-capped and Carolina Chickadees in the southern Appalachians.

Second, both parents were seen and their voices recorded. The calls included both the



Fig. 4. The above sonagram shows the B, C, and D syllables of the Chick-a-dee call complex in the voice of a Black-capped Chickadee recorded 5 May 1952 at Ithaca, N.Y., by A.A. Allen and P.P. Kellog. (Courtesy of the Laboratory of Ornithology, Cornell University)

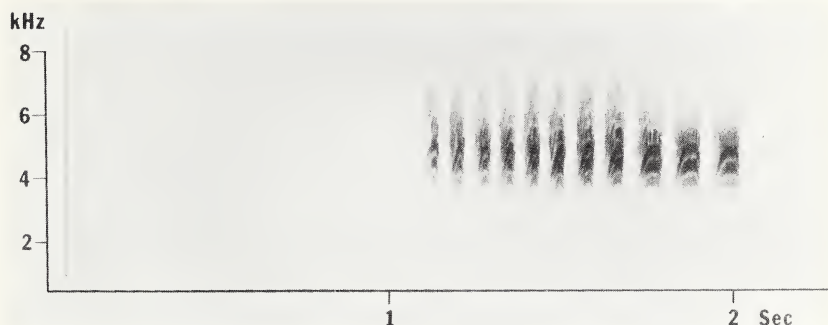


Fig. 5. A sonagram of the D syllables of a Carolina Chickadee recorded 25 March 1955 in Georgia by A.A. Allen and E.G. Allen shows the rapid rate of delivery typical for the species. (Courtesy of the Laboratory of Ornithology, Cornell University)

typical Fee-bee and the Chick-a-dee call complex as described by Ficken et al. (1978).

Third, the young bird had a large amount of white in the folded wings, which was due to the whitish-tan or off-white margins approximately 2 to 3 mm in width on the secondaries. Examination of specimens of both Black-capped and Carolina Chickadees from the U.S. National Museum of Natural History in Washington, D.C., revealed a significant plumage difference in the secondaries of the two species. Carolina Chickadees show whitish-gray in the wings, which is due to at most a narrow edging on the outer webs. Black-capped typically have broad white margins that may be as wide as 2 or 3 mm. The Begging Dee calls of the young bird were recorded.

Recordings of vocalizations were made with a Tandberg model 11 tape recorder equipped with a Dan Gibson model 200 parabolic reflector and microphone. Sonagrams were made with the aid of a Kay Electric Company Sona-Graph model 6061A. All sonagrams were produced at normal speed on a wide band filter.

Sonagrams of the Chick-a-dee call complex of the adult (Fig. 2) and the Begging Dee of the young (Fig. 3) show patterns consistent with the findings of Ficken et al. (1978) for the Black-capped Chickadee. In the calls of the adult, the duration of the last five notes or D

syllables was about 0.15 second for each note. The intervals for these same notes were about 0.04 second. For the young bird (Fig. 3), the note duration was about 0.10 second, and intervals were about 0.04, 0.04, and 0.07 respectively. In addition, the sonagram of the adult's call (Fig. 2) shows a rate of 5.8 D syllables per second which is comparable to the rate of 4.8 D syllables per second of a bona fide Black-capped Chickadee (Fig. 4). These rates contrast sharply with the rate of 11.5 D syllables per second of a bona fide Carolina Chickadee (Fig. 5).

The data presented above constitute the first convincing evidence for the breeding of the Black-capped Chickadee in North Carolina. Although the discovery of a preflight bird does not necessarily provide satisfactory proof of local nesting, this particular young bird was captured by hand well within the boundaries of North Carolina and does not seem likely to have wandered here from an adjacent state. A thorough search of the area was conducted, but no nest could be located. This was due in part to the high density of the surrounding spruce-fir forest as well as to the height of the individual trees.

Tanner (1952) found four nests of Black-capped Chickadees in the Great Smoky Mountains, but all of these were in Tennessee. He reported that nesting activities of this species began there in late April and early May. The 9 August date that the fledgling was captured thus seems unusually late for the species. If one assumes 12 days of incubation and an additional 16 days to fledge (Bent 1964), then the approximate date for laying was 12 July. The late date strongly suggests that the Black-capped Chickadee is at least occasionally double-brooded in the southern Appalachians. Obviously much remains to be learned about the relict populations of Black-capped Chickadees in the North Carolina and Tennessee mountains.

ACKNOWLEDGMENTS

My thesis committee, Dr. Richard Bruce, Dr. Fred Coyle, and Dr. Dan Pitillo, read the paper and made many valuable suggestions. Dr. James Gulledge of the Laboratory of Ornithology, Cornell University, instructed and guided me in the production of the sonagrams. Danny Overcash and David T. Potter assisted in the photographic reproduction of the sonagrams. David S. Lee of the North Carolina State Museum of Natural History arranged for my use of the museum's recording equipment. Dr. Charles Smith of the Laboratory of Ornithology offered advice and encouragement. Their help is sincerely appreciated.

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Department of Biology, Western Carolina University, Cullowhee, N.C. 28723, 1 November 1978.

ASHE COUNTY BREEDING BIRD FORAY—1979

HARRY E. LeGRAND JR. and ELOISE F. POTTER

North Carolina's first Breeding Bird Foray was held 7 through 11 June 1979 in two mountain counties. A 1-day survey of Roan Mountain, Mitchell County, N.C., to be reported in a separate paper, was followed by 4 days in Ashe County. Here four participants—Tom Haggerty of Boone, N.C., John O. Fussell III of Morehead City, N.C. (10 June only), and the authors—recorded 98 species of birds including the first breeding Tree Swallows (*Iridoprocne bicolor*) known for the state. The Foray was so successful that plans were begun immediately for a 1980 Foray to a different ornithologically under-studied section of the state. Intensive field work by well-organized teams of bird students can greatly increase our understanding of the state's breeding bird populations.

Ashe County (Fig. 1) was selected for the state's first Foray because it is strategically located in the northwestern corner of the state (bounded on the north by Virginia and on the west by Tennessee) and because a number of species scarce in the state in summer are known to have moderate breeding populations in the county. Also, a Breeding Bird Foray conducted at Mount Rogers, Va., and surrounding areas of that state in June 1974 (Raven 46:75-87) turned up a number of species not known to breed in North Carolina (Long-eared Owl, Tree Swallow, Hermit Thrush, Swainson's Thrush, Magnolia Warbler, Northern Waterthrush, Purple Finch, Savannah Sparrow). It was hoped that one or more of these species could be found in Ashe County, only 5 or 6 miles S of Mount Rogers.

Ashe County is somewhat different in aspect from most other mountain counties in the state because it is a heavily agricultural county, with an abundance of open-country habitats such as pastures, grassy fields, and farmyards. Extensive forests are limited primarily to the higher mountainsides and the southeastern edge near the Blue Ridge Parkway. The majority of Ashe County lies within 2500 to 4000 feet in elevation, but approximately 10 mountains reach above 4500 feet, with the maximum elevation being 5130 feet at The Peak, 8.5 miles W of West Jefferson. Generally speaking, the major mountains lie in central Ashe County and in a belt running southwestward into northern Watauga County. The major topographic feature of ornithological interest is the New River, with the North and South Forks of the river running northeasterly through the county and converging in the northeastern corner along the Alleghany County line. The elevation of the New River ranges from 2475 feet at the Alleghany County line to 2950 feet (South Fork) and 3300 feet (North Fork) where the two forks enter Ashe from Watauga County.

Even though only three observers participated every day, we believe that the coverage of the North and South Forks of the New River, the hill and valley topography that characterizes 75% of the county, and the Blue Ridge Parkway was quite satisfactory for making a judgment on bird populations for most species. Of the major mountains, only Pond Mountain (4980 feet and containing extensive pastures on its summit), Mount Jefferson (4683 feet and essentially entirely a hardwood forest), and Long Hope Mountain and Creek (4690 feet at the summit in northern Watauga County and 4200 to 4360 feet along the creek, which flows northward into Ashe County) were censused. Long Hope Creek lies in a valley that contains a few bogs, including one that straddles the Watauga-Ashe line, and considerable Red Spruce (*Picea rubens*) and Eastern Hemlock (*Tsuga canadensis*) among hardwoods. Bluff Mountain (5100 feet), containing a high-elevation bog and a mature stand of Carolina Hemlock (*T. caroliniana*), was not censused because a permit necessary to visit this mountain, recently purchased by the Nature Conservancy, was not obtained. (For further information on Bluff Mountain, write North Carolina Nature Conservancy, 108 Henderson Street, Chapel Hill, N.C. 27514.) Geographically, the only areas receiving poor coverage were the hill and valley country within 2 miles of the Tennessee border, the area along US 221 between West Jefferson and the Watauga County line, the residential section of a few towns, and five or six of the higher peaks.

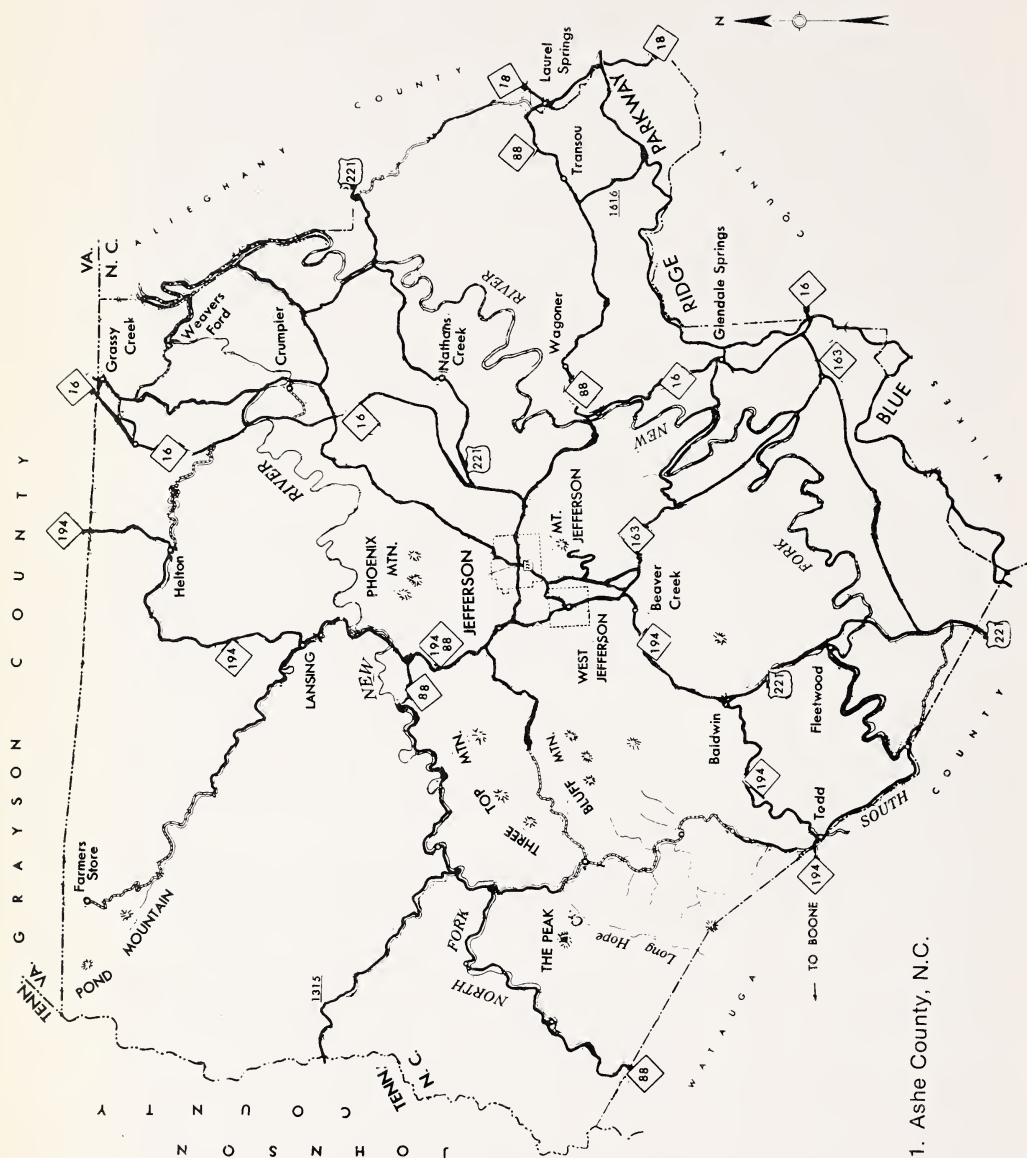


Fig. 1. Ashe County, N.C.

The following is an annotated list of all species recorded on the Ashe County Foray, with comments on relative abundance, elevation of occurrence, habitat preference, and nesting evidence found. Several additional species known to occur in summer are included in brackets along with a few that are merely presumed to be present. Some of the bracketed species are attributed to Mrs. A.B. Hurt, who did a great deal of field work in the Nathans Creek area. During the 1950s and 1960s Mrs. Hurt published a number of observations, including breeding bird censuses, in *Chat* and *Audubon Field Notes*.

Unlisted species that *may* occur in Ashe County in summer, and which *do* occur in rather small numbers in other North Carolina mountain counties at elevations below 2500 feet, include Red-shouldered Hawk, Barn Owl, Purple Martin, Loggerhead Shrike, Swainson's Warbler, Blue-winged Warbler, Cerulean Warbler, Yellow-throated Warbler, Pine Warbler, and Blue Grosbeak. Generally speaking, Ashe County is too high in elevation for these species. Some of these have perhaps been seen previously in the county in summer, but if so, accurately dated published records were not found. On the other hand, several species that nest elsewhere in the state at high elevations, mostly over 4000 feet, may also occur sparingly in Ashe County. The most likely are the Yellow-bellied Sapsucker, Alder Flycatcher, and Brown Creeper.

In the species accounts, "low elevations" are below 3000 feet, "middle elevations" are from 3000 to 4000 feet, and "high elevations" are above 4000 feet. "North Fork" and "South Fork" refer to the North and South Forks of the New River.

GREEN HERON. Only one seen, along the South Fork near Glendale Springs; presumably rare or uncommon. Woods or thickets adjacent to ponds, rivers, or streams.

WOOD DUCK. Apparently uncommon, at low elevations. There were three reports, including an adult with five young on the North Fork near Weavers Ford. Rivers and ponds.

TURKEY VULTURE. Fairly common to common at all elevations. In flight over all habitats.

BLACK VULTURE. Only one seen, near Grassy Creek. Breeding status uncertain; possibly just a visitor.

[SHARP-SHINNED HAWK. Not seen during the Foray, but a few probably occur.]

COOPER'S HAWK. Only one seen, an immature at Pond Mountain. A few probably breed; mixture of forests and open country.

RED-TAILED HAWK. Apparently uncommon, at all elevations, with only three reports totaling four birds. Mixture of forests and open country.

BROAD-WINGED HAWK. Uncommon to fairly common at all elevations. Deciduous or mixed forests, but seen also over open country.

AMERICAN KESTREL. Uncommon; extensive open country at all elevations.

[RUFFED GROUSE. Probably uncommon at all elevations in deciduous or mixed forests. Not noted on the Foray, but Haggerty heard one on 8 April 1979 on Bluff Mountain. Presumably most numerous on the higher mountains.]

BOBWHITE. Fairly common to common in the eastern half of the county, but not at all numerous in the western half. Probably at all elevations, but mainly at low ones. Hedge-rows, wood margins, overgrown fields.

[TURKEY. Not noted on the Foray, but a few may occur in extensive forests.]

KILLDEER. Fairly common in large pastures and plowed fields at low elevations. Presumably scarce above 3000 feet.

[AMERICAN WOODCOCK. This nocturnal species probably breeds sparingly, as it nests at both higher and lower elevations in the state than are present in Ashe County. It was not found on the Foray.]

[SPOTTED SANDPIPER. The N.C. State Museum has an undated record of a "summer pair" along the New River. Whether the birds were breeding is not known.]

ROCK DOVE. Fairly common in towns and at large farms.

MOURNING DOVE. Fairly common to common, mainly at low and middle elevations. Open country, wood margins, farm lands.

YELLOW-BILLED CUCKOO. Apparently uncommon, and noted only at low elevations, though a few probably occur above 3000 feet. Deciduous woods and thickets, generally along creeks and rivers.

BLACK-BILLED CUCKOO. Apparently uncommon, though perhaps as numerous in Ashe County as in any other in the state. Surprisingly, all birds were below 3000 feet, but it should occur regularly in middle and high elevations. An adult was seen carrying food near Helton. Deciduous woods, thickets, and groves, mostly along streams and rivers. Neither cuckoo species was singing well, and thus both might have been more common than noted (two reports totaling seven Yellow-billed, and five reports totaling eight Black-billed).

SCREECH OWL. One heard at daybreak near Jefferson, despite very limited nocturnal coverage. Probably in moderate numbers throughout the county in open to medium-growth woods.

[**GREAT HORNED OWL.** Presumed to occur, but not noted on the Foray.]

[**BARRED OWL.** A few probably occur, but not noted on the Foray.]

[**WHIP-POOR-WILL.** Not heard on the Foray, though two parties made numerous stops on 10 June before and at daybreak in seemingly suitable habitat.]

CHIMNEY SWIFT. Common at all elevations, though most numerous in the towns and open country at low and middle elevations.

RUBY-THROATED HUMMINGBIRD. Apparently uncommon to fairly common, at low and middle elevations. A few probably occur above 4000 feet. Deciduous woods, thickets, and margins, especially in moist places and near tubular flowers.

BELTED KINGFISHER. Uncommon to fairly common. Noted at all elevations, but mainly below 3000 feet. Along rivers and creeks.

COMMON FLICKER. Fairly common at all elevations. Open woods, groves.

PILEATED WOODPECKER. Uncommon, all elevations. Mature and extensive deciduous or mixed forests.

[**RED-BELLIED WOODPECKER.** Although there is a Spring Bird Count report of one on 6 May 1962 (Chat 26:66) and Mrs. Hurt reported the species as a visitor to her breeding bird census plot, none were noted on the Foray.]

[**RED-HEADED WOODPECKER.** Mrs. Hurt lists one territorial male in her breeding bird census plot for 1962 (Audubon Field Notes 17:510) and 1963 (AFN 18:573).]

HAIRY WOODPECKER. Uncommon at all elevations. Deciduous or mixed forests.

DOWNY WOODPECKER. Fairly common, all elevations. Deciduous or mixed woods, groves, and forests. Adults seen feeding young out of the nest.

EASTERN KINGBIRD. Fairly common below 3500 feet. None seen at higher elevations. Open country with scattered trees, fences, and telephone wires.

GREAT CRESTED FLYCATCHER. Uncommon to fairly common. Noted at all elevations, but mainly at low elevations. Open to medium-growth woods and forests.

EASTERN PHOEBE. Common at low and middle elevations, less so at high elevations. Mainly around farmyards and homes, less numerous at small bridges.

ACADIAN FLYCATCHER. Common below 3500 feet, a few above this elevation. Rich deciduous forests, generally along small streams.

WILLOW FLYCATCHER. Locally fairly common to common, at low elevations. Noted throughout the county, in shrubs and saplings along streams and rivers in open country, less numerous in shrub thickets. The peak count was 13, with four other counts of four to six, clearly indicating an increase in numbers since 1972 (see Chat 38:1-3).

LEAST FLYCATCHER. Locally fairly common to common, at low and middle elevations; probably occurs above 4000 feet. This species was very local, as occasionally three or four

birds could be heard within several hundred yards, only to travel 10 miles or more without hearing another. The peak count was 15. Open deciduous woods and groves, rarely in pines; most frequent near streams and rivers, but many in upland groves as well. An adult was seen on a nest near Helton.

EASTERN WOOD PEWEE. Common at middle and low elevations, less so at high elevations. Open to medium-growth woods and groves. An adult was seen on a nest near Weavers Ford.

[OLIVE-SIDED FLYCATCHER. One seen on 29 May 1972 near Weavers Ford (Chat 38:1-3) was almost certainly a late migrant. Ashe County seems devoid of suitable habitat for this rare species.]

HORNED LARK. Uncommon, at all elevations. Two singing individuals were noted in pastures in the Pond Mountain area, one was heard at a plowed field at Transou, and a pair of adults with juveniles was seen in a plowed field near Glendale Springs.

TREE SWALLOW. The first North Carolina nesting record was that of a nest discovered by Potter along the North Fork, just east of Weavers Ford, on 9 June. She observed the adult pair flying to the nest and entering it frequently, the nest being a vacated Downy Woodpecker hole near the tip of a dead stub on the riverbank. Potter and LeGrand observed one to several young birds being fed at the entrance of the nest hole on 11 June.

ROUGH-WINGED SWALLOW. Fairly common at low and middle elevations; a few probably occur above 4000 feet. Two nest burrows noted. Seen in open country and along streams and rivers; nests in banks along streams and road cuts.

BARN SWALLOW. Common to very common, somewhat less numerous at high elevations. Very widespread around farmyards, pastures, fields, and other open country habitats.

BLUE JAY. Fairly common at all elevations, with only two of the 11 trip lists tallying over seven individuals. Open to medium-growth woods, mainly away from streams and rivers.

[COMMON RAVEN. Previously reported from Bluff Mountain, where habitat in the form of cliffs seems suitable for nesting. Might occur on other mountains, but no ravens were noted during the Foray.]

COMMON CROW. Common at all elevations. Widespread in open country and in woodlands.

CAROLINA CHICKADEE. Fairly common to common, mostly at low and middle elevations. Young seen out of the nest. Forests and woodlands.

TUFTED TITMOUSE. Fairly common to common, mostly at low and middle elevations. Deciduous forests and woods. Both the titmouse and chickadee seemed less numerous than in most other counties in the state, and each species was reported in double figures only twice out of 11 lists.

WHITE-BREASTED NUTHATCH. Uncommon, at all elevations. Open to medium-growth, mature hardwood forests.

RED-BREASTED NUTHATCH. Found only along Long Hope Creek, where five were seen and heard in hemlocks and spruce. Haggerty noted two birds in Carolina Hemlocks on Bluff Mountain, 8 April 1979, where the species might breed. Restricted to evergreen or mixed forests at high elevations.

HOUSE WREN. Common at all elevations, though more numerous in the western half of the county than in the eastern half. The peak count was an excellent 35 birds. Mainly in farmyards, less commonly in residential sections of the towns.

WINTER WREN. Two were heard singing along Long Hope Creek. Apparently restricted to mixed forests where spruce and/or hemlock occur.

[BEWICK'S WREN. Formerly occurred in the county, but now rare or absent, as none were found. Ashe County contains an abundance of suitable habitat (high elevation farmyards, hedgerows, and brushlands), yet thorough coverage of such areas produced no birds. The possibility exists that this species no longer breeds in the state.]

- CAROLINA WREN. Uncommon to fairly common, only at low and middle elevations. Undoubtedly reduced in numbers by the severe winters of 1976-77, 1977-78, and 1978-79; probably common prior to these winters. Woodlands and forests, less numerous in farmyards and residential areas.
- MOCKINGBIRD. Surprisingly scarce; uncommon in towns, and not seen at all in seemingly suitable habitat in farmyards and rural roadsides.
- GRAY CATBIRD. Very common at all elevations. Widespread in woodland margins, thickets, residential shrubbery, and farmyards, especially in moist places.
- BROWN THRASHER. Common at all elevations, though somewhat less numerous than in most piedmont and coastal plain counties. Overgrown fields, hedgerows, wood margins, and residential areas.
- AMERICAN ROBIN. Very common at all elevations. Most numerous around towns and farmyards.
- WOOD THRUSH. Fairly common to common, except quite uncommon above 4000 feet. Common along the Blue Ridge Parkway. Deciduous forests, especially where moist.
- VEERY. Common above 4000 feet, and two birds were heard between 3500 and 4000 feet. Deciduous or mixed forests.
- EASTERN BLUEBIRD. Fairly common at low and middle elevations, with only one record at high elevations. Fledged juveniles seen. Farmyards and other roadside habitats.
- BLUE-GRAY GNATCATCHER. Fairly common at low elevations. Deciduous woods along streams and rivers.
- GOLDEN-CROWNED KINGLET. Six were seen and heard in mixed woods (in spruce and hemlock) along Long Hope Creek. This might be the only place in the county where kinglets breed.
- CEDAR WAXWING. Fairly common to common, most numerous at low elevations along streams and rivers. The large number of birds in open deciduous woods along the rivers was puzzling. It seems likely that most were simply feeding in this habitat, prior to nesting, and many were still in small flocks. In the mountains of the state, the species nests mainly in scattered conifers in residential areas, around the margins of bogs, and in open woods; and nesting is mainly in July and August. Thus, the waxwings seen on the Foray, for the most part, probably did not represent breeding populations.
- STARLING. Very common, mainly at low and middle elevations, with juveniles seen. Towns, farmyards, and roadsides.
- WHITE-EYED VIREO. Uncommon to fairly common, mainly at low elevations, and none over 4000 feet. Dense thickets in damp places.
- YELLOW-THROATED VIREO. Fairly common to common at low elevations, especially along the rivers. Open deciduous woods and groves.
- SOLITARY VIREO. Common at high elevations, down to 3500 feet; mostly uncommon in low elevations. Above 3500 feet occurs in most types of forests, both deciduous and mixed; below 3500 feet mainly in pine or mixed forests.
- RED-EYED VIREO. Common to very common at low and middle elevations; fairly common to common above 4000 feet. Deciduous woods and forests.
- WARBLING VIREO. Uncommon along streams and rivers at low elevations; most numerous in the Weavers Ford area where the North and South Forks join. An adult was seen on a nest near Helton. Birds were noted scattered nearly throughout the county, occurring south to Todd along the Watauga County line. Tall deciduous trees, especially Balm of Gilead (*Populus candicans*), lining rivers and streams in open country.
- BLACK-AND-WHITE WARBLER. Fairly common at all elevations; most numerous along the Blue Ridge Parkway and on the slopes of the higher mountains. Mature deciduous forests.
- WORM-EATING WARBLER. One seen and heard at 2800 feet, just east of Glendale Springs, on the eastern slope of the Blue Ridge. Because Ashe County is too high to con-

- tain much suitable habitat (ravines and mountainsides below 3000 feet), the species is obviously rare in the county.
- GOLDEN-WINGED WARBLER.** Uncommon at all elevations. Overgrown fields and wood margins, especially in Black Locust (*Robinia pseudo-acacia*) saplings.
- NORTHERN PARULA.** Fairly common at low and middle elevations, but uncommon at high elevations. All forest types, but a decided preference for mixed forests, particularly in hemlocks.
- YELLOW WARBLER.** Common to very common at low and middle elevations, but uncommon over 4000 feet. Favors small deciduous trees in farmyards, streamsides, and thickets.
- BLACK-THROATED BLUE WARBLER.** Fairly common to common at high elevations, less common to 3500 feet. Deciduous or mixed forests.
- BLACK-THROATED GREEN WARBLER.** Surprisingly scarce, with only single birds recorded in mixed woods on Pond Mountain and Mount Jefferson. Apparently uncommon at high elevations; a few may occur at middle and low elevations.
- BLACKBURNIAN WARBLER.** Six were seen and heard in mixed forests at Long Hope Creek. Species was not found on the higher mountains, but a few may occur in deciduous or mixed forests on some of these peaks.
- CHESTNUT-SIDED WARBLER.** Common at high elevations, but uncommon below 3500 feet, with a few noted below 3000 (including one at 2500 feet near Weavers Ford). Overgrown fields, wood margins, deciduous groves, and open deciduous woods.
- PRAIRIE WARBLER.** Uncommon, only at low elevations. Saplings in overgrown fields and clearings.
- OVENBIRD.** Quite common along the Blue Ridge Parkway, but only fairly common to common elsewhere, at all elevations. Medium-growth deciduous forests, especially on mountainsides.
- LOUISIANA WATERTHRUSH.** Apparently uncommon; because this species generally has finished its song period by early June, individuals were probably overlooked. At low and middle elevations, along streams in deciduous or mixed forests.
- KENTUCKY WARBLER.** Uncommon at low elevations, with one or two at middle elevations. Adult seen carrying food. Rich deciduous forests with abundant understory.
- COMMON YELLOWTHROAT.** Common at low and middle elevations; uncommon to fairly common above 4000 feet. Thickets and overgrown fields.
- YELLOW-BREASTED CHAT.** Uncommon, mainly at low elevations; less numerous at middle elevations. Thickets and overgrown fields.
- HOODED WARBLER.** Surprisingly only uncommon to fairly common over most of the county, but common along the Parkway. Uncommon over 4000 feet. Rich deciduous forests.
- CANADA WARBLER.** Fairly common to common at high elevations; not noted below 4000 feet, but some undoubtedly breed down to perhaps 3500 feet. Forests with a dense understory, especially of rhododendron.
- AMERICAN REDSTART.** Locally fairly common. Most numerous at low elevations, less so at middle elevations. Two discrete habitats: open deciduous woods and groves along streams and rivers, and rather dense second-growth deciduous forests.
- BOBOLINK.** Four singing males were seen in a large grassy field and pasture complex near Glendale Springs on 10 June by LeGrand. The birds appeared to be on territory as they sang from telephone wires, fences, and treetops. No females were seen. There are previous nesting records from Wilkes County, N.C., and Johnson County, Tenn., both adjacent to Ashe County. Wendell P. Smith (Chat 23:67-68, 24:105) found Bobolinks nesting successfully near North Wilkesboro in 1959 and 1960. Kenneth H. Dubke (Migrant 34:17-19) located a nest with three young Bobolinks and one unhatched egg on 10 June 1962 at 2800 feet in Shady Valley, Tenn., which is about 15 miles from the North

Carolina line. Three nestlings were banded on 16 June, and they were seen being fed out of the nest on 17 June. A territorial male was present at the same site in 1963, but no evidence of breeding was noted. There are numerous other summer records of Bobolinks from the southern Appalachians and adjacent piedmont, including a male seen by Smith (Chat 23:68) at Deep Gap in Watauga County, N.C., only a few miles south of Ashe County. Apparently there is a small and erratic population of breeding Bobolinks in northeastern Tennessee and northwestern North Carolina.

EASTERN MEADOWLARK. Common at low and middle elevations, less so at high ones. Fields and pastures.

RED-WINGED BLACKBIRD. Very common at low and middle elevations, with a few above 4000 feet. Fields, marshes, thickets.

ORCHARD ORIOLE. Uncommon, only at low elevations, and mostly along the New River. Deciduous groves and scattered trees.

NORTHERN ORIOLE. Fairly common at low elevations, most numerous along the New River. Common in the Weavers Ford area. Deciduous groves and shade trees, mainly along streams and rivers, but some in yards. Three active nests found.

COMMON GRACKLE. Very common at low and middle elevations, and fairly common above 4000 feet. Towns, farmyards, groves, open country.

BROWN-HEADED COWBIRD. Fairly common to common at all elevations. Pastures, farmyards, towns, and other open-country habitats.

SCARLET TANAGER. Fairly common to common at all elevations; common along the Parkway. Deciduous forests.

SUMMER TANAGER. Apparently rare at low elevations, with a male seen and another heard calling near the South Fork in the southern part of the county. Open to medium-growth deciduous forests.

CARDINAL. Common at low and middle elevations, but quite uncommon over 4000 feet. Less common than in downstate counties. Open woods, wood margins, thickets, residential areas.

ROSE-BREASTED GROSBEAK. Common at high elevations, with a few down to approximately 3500 feet. Deciduous forests.

INDIGO BUNTING. Very common at low and middle elevations; fairly common to common at high elevations. Rivals the Song Sparrow as the most numerous and widespread bird in the county. Open deciduous woods, wood margins, groves, hedgerows, farmyards.

AMERICAN GOLDFINCH. Common, but mainly at low and middle elevations. Overgrown fields, thickets, wood margins, and farmyards, especially where moist.

RED CROSSBILL. One heard calling over Long Hope Creek; probably a nonbreeding individual, though spruce and hemlock are present along the creek.

RUFIOUS-SIDED TOWHEE. Common to very common at all elevations. Widespread in woodlands, wood margins, overgrown fields, and residential areas.

GRASSHOPPER SPARROW. Uncommon up to approximately 3500 feet, where noted along the Parkway. Two counts of five birds each were made, mostly at low elevations, and all were in the eastern half of the county. Grassy fields.

[**HENSLOW'S SPARROW.** Reported by Mrs. Hurt as nesting near Nathans Creek in a weedy field in 1959 and 1960, but no details were supplied (Audubon Field Notes 13:473, 14:502). Although the species was searched for during the Foray, none were located. Suitable habitat (damp meadows and weedy fields) is moderately common in the eastern part of the county.]

VESPER SPARROW. Common at high elevations, with a peak count of 25 on Pond Mountain. Uncommon at middle elevations, with one or two noted down to 2900 feet. Overgrazed pastures or short-grass fields with convenient song perches such as fences, rocks, and scattered saplings.

DARK-EYED JUNCO. Common at high elevations, and a few down to approximately 3500 feet. Forests of all types (deciduous or coniferous, open or medium-growth); often feeds in adjacent fields and grassy places.

CHIPPING SPARROW. Common at low and middle elevations, but uncommon at high elevations. Residential areas, farmyards, scattered trees.

FIELD SPARROW. Common at all elevations. Overgrown fields, hedgerows, wood margins, and other brushy places.

SONG SPARROW. Very common at low and middle elevations; common at high elevations. Nesting in residential areas, farmyards, thickets, and wherever shrubs grow, the Song Sparrow is the most numerous and widespread bird breeding in the county.

ACKNOWLEDGMENTS

We are indebted to Tom Haggerty and John O. Fussell III for their capable and enthusiastic field work in Ashe County and to Steven P. Platania of the North Carolina State Museum for technical assistance in the preparation of the county map. Haggerty and David S. Lee read an earlier draft of the paper and offered helpful comments.



General Field Notes

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Observations of Water Birds on Lake Murray, S.C.

BOB LEWIS

Greenwood, S.C.

13 June 1978

Lake Murray, one of the larger man-made lakes in South Carolina, lies predominantly in Lexington County, roughly 20 miles W of Columbia. Table 1 summarizes the 11 field trips

TABLE 1. Observations of wintering water birds
at Lake Murray, S.C., 1977 and 1978.

Species	1977	8 Jan.	23 Oct.	6 Nov.	20 Nov.	25 Nov.	1978	21 Jan.	23 Jan.	5 Feb.	27 Feb.	9 Apr.	12 Apr.
Common Loon	21	43	9	7	7	30	3	20	1	20	15		
Horned Grebe	1457	12	42	146	25	1250	700	1350	11	2	--		
Pied-bill. Grebe .	7	1	--	--	--	4	--	2	--	--	--		
Mallard	160	25	20	--	--	6	1	10	6	5	6		
Black Duck	10	6	--	--	--	--	--	--	--	--	--		
Gadwall	--	2	--	--	--	25	2	--	--	--	--		
Blue-winged Teal .	--	--	--	--	--	--	--	--	--	--	2		
American Wigeon ..	--	15	--	--	--	--	--	--	--	--	20		
N. Shoveler	--	--	--	--	--	--	--	--	--	2	--		
Redhead	--	--	--	--	--	--	--	30	--	--	--		
Scaup (sp. ?)	--	110	1	300	--	15	300	300	600	60	50		
Com. Goldeneye ...	--	--	--	--	--	--	3	--	--	--	--		
Bufflehead	--	--	--	--	--	--	--	2	4	--	--		
Hooded Merganser .	--	--	--	--	--	--	--	15	--	--	5		
Red-br. Merg.	53	--	--	--	--	--	94	80	2	--	--		
Duck (sp. ?)	--	100	--	--	30	100	--	--	--	--	400		
American Coot	14	7	--	--	--	1	2	4	9	400	--		
Herring Gull	--	--	3	--	--	20	--	10	10	--	--		
Ring-billed Gull .	85	15	20	--	--	1000	300	200	100	50	--		
Bonaparte's Gull .	20	4	--	--	--	--	150	200	--	--	--		
Gull (sp. ?)	--	--	--	--	--	--	--	--	--	--	60		

I made to this lake during 1977 and 1978.

The best observation point for birding is reached by driving north on Shore Road from SC 378 for about 6 miles until the road ends. One is then at the end of a long peninsula jutting into the lake. From here it is possible to scan over several square miles of water to the east and south. In dealing with such large distances, it is essential to have a powerful telescope and good viewing conditions (i.e. water temperature approximately equal to air temperature). Another good lookout is the dam forming the Lake on SC 6.

The most notable feature of the table is the enormous number of Horned Grebes that wintered on Lake Murray in 1977 and 1978. Such numbers are unprecedented at an inland location in the Carolinas, if not for the continent. The numbers recorded for Common Loon, Red-breasted Merganser, and scaup are also unusually high, at least by comparison with the accounts given by Sprunt and Chamberlain in *South Carolina Bird Life* (1970). Because of the great distances involved, I have listed all scaup under the heading "Scaup (sp. ?)." There is little or no doubt, however, that the vast majority of these birds were Lessers.

Not included in the table are two birds seen indistinctly at a great distance on 21 January 1978. They are thought to have been Western Grebes, but viewing conditions made a positive identification impossible.

It should be noted that the winters of 1977 and 1978 were unusually severe. I was accompanied on several of these trips by my wife Lisa, and once by Brian Cassie.

White-tailed Kite in South Carolina Piedmont

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9 January 1979

On 4 July 1978 I attended a picnic near the intersection of SC 72 and Coronaca Creek, in Greenwood County, S.C., about 6 miles NE of the city of Greenwood. The temperature was in the 90s that afternoon with little or no wind and a clear sky. I was in the backyard of a home surrounded by forested country broken occasionally by fields and the highway. Along with the expected species of passerines, I noted a number of Fish Crows in the area.

Around 1500 I was attracted by movement in the sky. From behind some trees in the distance I saw a large bird flying, pursued by three crows (apparently Fish Crows). Astoundingly, the bird looked pure white, and my first thought was of an egret. Many seconds passed before I was able to obtain a pair of binoculars from my car. I relocated the bird, which had been flying steadily, and observed it with binoculars for 2 to 3 seconds. It was about 70 to 100 m away.

The entire body and under surface of the tail were pure white. The bird was a little larger than the pursuing crows, especially in wingspread. In the brief time that I looked at it, two features attracted my attention: the whiteness of the body, head, and tail, and the head itself, which had a beautiful, well-defined, tear-shaped black mark around the eye. There was some black on the under surface of the wings, which were white otherwise. The bird flew by flapping two or three times and then gliding, in the style of an accipiter, but with slower wingbeats. The bird was undoubtedly a White-tailed Kite (*Elanus leucurus*).

This Western species, of Southern California and Texas, formerly occurred in South Carolina. In the 1830s, Audubon and his contemporaries recorded the bird several times in the Charleston area and located a nest there (*South Carolina Bird Life*, 1970, p. 152). In the last 50 years, however, there have been only two recorded observations in South Carolina, both made by Douglas Wade in the early 1950s within 10 miles of Clemson (Chat 17:70). In North Carolina, the most recent record of the bird is from the Wilmington area in January of 1957 (Chat 21:70).

Adding significance to the Greenwood observation is the fact that the White-tailed Kite has, in recent years, been undergoing a population explosion and may be extending its range (*American Birds* 32:972). The re-establishment of the species in South Carolina is, therefore, an exciting possibility.

[NOTE: In recent years an albinistic Red-tailed Hawk (Chat 43:31) has frequented the

same area reported above. However, the hawk is not pure white but light cream-colored and apparently does not have a black oval around the eye (John E. Cely in letter to Lewis, 11 June 1979). Lewis has affirmed (letter, 14 June 1979) that the bird he saw was not a Red-tailed Hawk.—JRH]

Red-tailed Hawk Capturing Fish

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9 May 1979

The Red-tailed Hawk (*Buteo jamaicensis*) is a widely distributed and successful predator, taking prey ranging through mice, snakes, squirrels, and rabbits to birds virtually as large as itself. Nonetheless, we were quite startled to observe one taking fish from the surface of a lake.

At 0930 on 2 May 1979, William Brown and I were boating across Lake Wheeler near Raleigh, Wake County, N.C. The weather was fair with a southeasterly wind of about 5 knots. A Red-tailed Hawk appeared over the lake gliding approximately 40 m above the surface. As we watched, the bird stooped suddenly and snatched an object from the lake. The hawk then turned and flew directly over our boat at not more than 20 m altitude. The prey item was clearly a fish.

The actions of the hawk suggested that it was an experienced fisher. Its manner of flight indicated a posture of searching, and its capture technique was similar to that of a fishing eagle. Both feet were thrust downward and forward in synchrony, and, as far as we could determine, no part of the bird other than the talons was wetted. Dead and moribund Black Crappie (*Pomoxis nigromaculata*) and Bluegill (*Lepomis macrochirus*) are a fairly common sight at Lake Wheeler in midspring and seem to represent a largely unexploited food resource. At least one Red-tailed Hawk had learned to use this abundant and easily taken source of prey.

Spring Record of the Hudsonian Godwit in Inland South Carolina

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While jogging late in the afternoon of 26 April 1979, Valega noticed three large shorebirds on the athletic fields at Clemson University, Clemson, S.C. He approached within 20 or 30 yards of the birds and noticed their upturned bills and a black-and-white tail pattern when they flew, even though he did not have binoculars with him. After returning to his hotel room, he checked his field guides and was convinced that the birds were Hudsonian Godwits (*Limosa haemastica*). He then called LeGrand, and both observed two remaining birds with binoculars and telescope late the next afternoon. Sidney Gauthreaux and LeGrand observed the two godwits on 28 April in extreme detail, and the birds were last seen on 30 April.

Throughout their stay at Clemson, the godwits remained in a very limited area of the field, a closely mowed lawn, and returned to it when flushed. They probed deep into the damp, spongy ground with their bills, and they were surprisingly tame for such large birds. Frequently feeding in association with the godwits were several Ring-billed Gulls (*Larus*

delawarensis), a Killdeer (*Charadrius vociferus*), and varying numbers of Eastern Meadowlarks (*Sturnella magna*) and Common Grackles (*Quiscalus quiscula*).

The long, upturned bills that were dark distally and pinkish-orange proximally were easily noted on the two birds studied well. Their backs were plain grayish-brown. One individual had a rusty color on half of its breast, indicating a partial change to breeding plumage. The second bird, which had a light gray breast, was still mainly in winter plumage. Both birds had considerable spotting and barring on the underparts. In flight, the dark wings with a white wing stripe, black axillars and wing linings, white rump, and black tail were observed.

The Hudsonian Godwit normally migrates in the spring northward through the Great Plains and is extremely rare at this season along the Eastern Seaboard. A slow-moving cold front that brought heavy flooding to the Gulf States, as well as heavy rain to the Carolinas, was clearly responsible for bringing the birds to South Carolina. This appears to be the fifth record for South Carolina (see Lewis, 1978, *Chat* 42:82-83), though a February sighting not published in full might have been a Black-tailed Godwit (*Limosa limosa*), based on the latitudes of the winter ranges of the two species. The Clemson record is significant because it is only the second spring record for the Carolinas [the other being one seen by E. von S. Dingle near Charleston, S.C., on 8 or 10 May 1941 (*South Carolina Bird Life*, 1970, p. 251)] and only the second inland record for these states [the other being two seen at Lake Mattamuskeet, N.C., on 23 October 1977 by Geraldine Cox, Elizabeth Ball, et al. (*Chat* 43:39)].

Status of the Buff-breasted Sandpiper in Coastal South Carolina

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25 September 1978

On 13 September 1978 Dick Munoz and I conducted a tour of Cape Romain NWR, S.C., for two visiting scientists/ornithologists from the Netherlands. While observing various common birds on the seaward side of Bird Island, our attention was drawn to an isolated bird not associated with the others.

The bird, a Buff-breasted Sandpiper (*Tryngites subruficollis*), was on the higher sand dunes of the island in an area used in spring by nesting Brown Pelicans (*Pelecanus occidentalis*). Using 7X binoculars, all observers identified the sandpiper from 25 feet. About 6 to 7 inches long, the bird had pale legs, a white eye-ring, and uniform buff or tan color on the throat, breast, and abdomen.

After 4 minutes of observation, the bird was flushed. It flew a short distance and landed in a similar area. The bird seemed fatigued and emaciated, with the sternal keel appearing to protrude from the breast. This may explain the absence of an energetic, snipe-like flight when it was flushed.

The present sighting plus about a dozen others reported in *Chat* and *South Carolina Bird Life* form the basis for proposing a change in the seasonal status of the Buff-breasted Sandpiper from accidental (Sprunt and Chamberlain, *South Carolina Bird Life*, p. 249) to a regular but uncommonly seen fall migrant on the South Carolina coast. Except for a May specimen collected by Hoxie, the South Carolina records of this species fall during the period from late August to early October.

Sisyphean Behavior in a Red-headed Woodpecker

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17 June 1979

On the morning of 17 September 1977, a Red-headed Woodpecker (*Melanerpes erythrocephalus*) was flushed from the base of a Willow Oak (*Quercus phellos*) on St. Mary's

Street in Raleigh, N.C. The bird flew with an acorn in its bill to a nearby telephone pole. In a matter of seconds it had worked its way nearly to the top of the pole. The bird stopped, pushed the acorn into a hole, and then returned to the base of the oak for another acorn. The same procedure was repeated, except that when the second acorn was thrust into the hole, an acorn popped out the other side. Immediately, the ludicrousness of the situation was apparent. The woodpecker was attempting to fill a hole bored completely through the diameter of the pole.

The Red-headed Woodpecker is known to wedge acorns into cracks and chinks, and its near relative, the Acorn Woodpecker (*M. formicivorus*), has a propensity for storing acorns in holes drilled for that purpose. But that knowledge in no way lessened this comedy. Because an acorn popped out on the second trip observed, the bird obviously had been engaged in the activity for some time prior to my arrival. Comparing the size of the acorn (maximum of 1 cm) to the diameter of the pole (minimum of 20 cm at the height of the hole) indicates approximately 20 previous trips.

However, the most intriguing aspect of this activity was the woodpecker's apparent "agitation" at not being able to fill the hole. After pushing an acorn in, the bird would often hitch around the pole just in time to see an acorn hit the ground. It would then move to the exit hole and chatter loudly. On occasion the bird would pick up a "processed" acorn and reinsert it.

The number of acorns pushed out at each visit varied from none to two, with one being the usual number. The bird always inserted the acorn on the same side of the pole, thereby creating distinct "in" and "out" holes. Because each acorn could be used more than once and the starting time for the activity is unknown, no estimate of the total attempts at filling the hole can be made. However, the approximate number of attempts needed before acorns were pushed out the other side (20) plus the number of observed attempts (14) yields a minimum of 34.

I watched the activity about 10 minutes. When a pedestrian passed close to the pole, the bird flew and did not return within the next 10 minutes. No further activity was seen on subsequent visits.

This is not the only report of Sisyphean behavior in the Red-headed Woodpecker. A.C. Bent (Life Histories of North American Woodpeckers, U.S. Natl. Mus. Bull. 174, p. 202-203) records an almost identical observation reported by George A. Dorsey in 1926.

Warblers in Southwestern North Carolina, Including Cerulean Warblers in Clay County

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11 June 1979

On 9 and 10 May 1979 my tour schedule with the North Carolina Symphony allowed me considerable time to search for warblers in southwestern North Carolina. The areas covered on 9 May were in Graham County: NC 28 from US 19 to Fontana Village (0730-1030) and SR 1246 and SR 1247 west of Fontana Village (1100-1400). Areas on 10 May were in Clay, Macon, Jackson, and Haywood Counties: US 64 and US 23 to the Blue Ridge Parkway northbound to Richland Balsam (1100-1800). The method of locating birds was to drive slowly, listening for songs. Stops were made for visual confirmations and at apparently favorable habitats. Notes on nesting behavior and information supplemental to Harry E. LeGrand's 1973 warbler distribution and abundance study (Chat 39:45-54) follow. Terms of abundance correspond to those used by LeGrand.

Golden-winged Warbler (*Vermivora chrysoptera*): common along US 64 between Hayesville and Franklin at elevations over 3000 feet. Blue-winged Warbler (*V. pinus*): an individual was singing the typical "beebuzz" song in Graham County. Northern Parula

(*Parula americana*): a female was seen entering a nest in western Macon County. Cerulean Warbler (*Dendroica cerulea*): one was observed in Graham County at a location described by LeGrand (Chat 43:20). Blackburnian Warbler (*D. fusca*): common in the Canadian Zone around Richland Balsam. Some appeared paired. Chestnut-sided Warbler (*D. pennsylvanica*): nearly 100 birds were estimated along the parkway on 10 May. A more careful survey might have indicated "abundant" status. Yellow-breasted Chat (*Icteria virens*): one of two in Graham county carried nest material.

In addition, two Cerulean Warblers (one confirmed visually) were singing within hearing of each other, ¼ mile N of US 64 on Shooting Creek Road, 5 miles W of the Clay-Macon county line. This is the first published occurrence of the Cerulean Warbler in Clay County. The close proximity of the two singing males suggests the colonial behavior observed in the species at other North Carolina sites (see Chat 43:20). The habitat was mature hardwoods on steep slopes at an elevation of 3000 feet.

On four occasions I heard calls that were attributed to Worm-eating Warblers (*Helmitheros vermivorus*), but the birds were not seen. Despite the use of a tape recorder, no Swainson's Warblers (*Limnothlypis swainsonii*) were found in the previously occupied areas near Fontana Village (Harry LeGrand, pers. comm.). The other warbler species present were Black-and-white (*Mniotilta varia*), Yellow (*D. petechia*), Black-throated Green (*D. virens*), Yellow-throated (*D. dominica*), Blackpoll (*D. striata*), Ovenbird (*Seiurus aurocapillus*), Common Yellowthroat (*Geothlypis trichas*), Kentucky (*Oporornis formosus*), Hooded (*Wilsonia citrina*), and American Redstart (*Setophaga ruticilla*).

Grackles Exhibit Common Defensive Behavior Against an American Alligator

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On 28 April 1979, while conducting field work on Caper's Island, north of Charleston, S.C., I observed an unusual display of aggressive common defense. As I studied a colony of nesting Boat-tailed Grackles on a small island in a brackish impoundment, a large (10-foot) American Alligator approached the colony from the edge of the pond. Although the alligator advanced with only its head above water, two female Boat-tailed Grackles and a male Red-winged Blackbird began mobbing the alligator when it came within 100 feet of the colony. Flying in tight circles above the alligator's head and uttering constant alarm cries, the three birds harassed the intruder for approximately 15 minutes. At times, the female Boat-tailed Grackles came within 2 inches of the alligator's head as though they were attempting to land.

While aggressive defensive behavior is commonly displayed by both individuals and groups of birds against such enemies as mammals, snakes, and other birds, little documentation exists on attacks on alligators (Bent 1958, Pettingill 1970). This seemingly ambitious defense is not unwarranted, however, because the alligator has been known to prey on the eggs and young of the Boat-tailed Grackle, although occurrences are apparently rare (Audubon 1834, Bent 1958).

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Lark Bunting in Wake County, N.C.

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While birding on Dorothea Dix Farm, Raleigh, Wake County, N.C., at 0850 on 2 May 1978, we noticed a sparrow-sized black-and-white plumaged bird standing on the ground. Observing it with field glasses, we simultaneously identified it as a Lark Bunting (*Calamospiza melanocorys*) by its black body and black wings with large white patches. Closer observation revealed light-colored legs, a gray conical bill, white-tipped axillary feathers, and a rounded tail with white-tipped rectrices.

The bird remained in the immediate vicinity of the original sighting for at least 10 days. It was seen by many people, including most of the participants in the 1978 Raleigh Spring Bird Count. A photograph by Merrill Lynch appears with the local compiler's comments on the count (Chat 43:56) and confirms the field marks listed above. Typically the Lark Bunting was seen on the ground in short grass or beneath a rabbit hutch, never more than 100 yards from the point of the original sighting. On a few occasions the bird perched in the lower branches of nearby Post Oaks and sang an incomplete Cardinal-like song. It was last reported by Robert J. Hader on 12 May 1978.

Although common in the short-grass prairies of the West, this species has been recorded in North Carolina only four times prior to the present sighting. A Lark Bunting was seen in Cumberland County on 7 July 1958 (Chat 23:20), and the species has occurred three times as a fall transient on the coast (Chat 28:31-32, 35:34, and 35:56). The Wake County sighting is the first spring record and the only one from the piedmont region.

The Clay-colored Sparrow in South Carolina

JAY SHULER

P.O. Box 288
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6 May 1979

Almost daily from 28 February through 1 May 1979, I observed an adult Clay-colored Sparrow (*Spizella pallida*) in the vicinity of a barn at Doe Hall, about 5 miles SW of McClellanville, Charleston County, S.C. On 5 March two adults and an immature were seen. Although Chipping Sparrows were among the birds that fed on hayseeds in front of the barn, the Clay-colored was a member of a flock of about 20 Field Sparrows, the last of which was seen on 16 April. After that the Clay-colored came and went alone, though it fed with small groups of migrant Savannah, White-throated, and Song Sparrows when they were present. During its last week the Clay-colored underwent a head molt, and on 30 April its markings were noticeably darker and better defined than before. I photographed this bird, and it was seen by many observers.

This is the fourth winter and second spring record for the Clay-colored Sparrow in South Carolina. Pat and Rene Probst (pers. comm.) watched a Clay-colored at their North Litchfield Beach feeding station for several days during the "great" snow of 9 to 11 February 1973. Perry Nugent recorded one at his feeder just south of Charleston from 9 December 1973 through 10 January 1974 (American Birds 28:628). Another was seen on 3 December 1977 near Townville by Harry LeGrand and Sidney Gauthreaux (Chat 32:65). A singing bird at Columbia 20 and 21 April 1968 (Chat 32:78), one collected in Berkeley County 27 October 1927 (South Carolina Bird Life, 1970, p. 543), and two seen near Clemson 28 September 1977 (Chat 42:38) complete the South Carolina records to date.

The South Carolina occurrence of the Clay-colored Sparrow in fall, winter, and spring contrasts with the North Carolina seasonal distribution. Since it was added to that state's list

on 19 September 1963 (Chat 28:98) at least 30 have been reported, all but one in fall.

This suggests that in fall some Clay-colored Sparrows migrate east to the Atlantic and move southward through North Carolina to South Carolina, where some spend the winter. The virtual absence of spring records for North Carolina—a 9 May 1971 observation lasting 3 seconds has been questioned (Chat 40:70)—suggests that a direct route may be taken back to the breeding grounds, which lie mostly north and west of a line from Michigan to northern Texas. However, the Clay-colored Sparrow has been extending its range eastward in the last three decades. John Bull (Birds of New York State, 1974) summarized records, indicating that the species nests regularly in western New York State. In 1960 a male Clay-colored Sparrow mated with a female Chipping Sparrow near Ithaca and fledged three young. In later nests in New York State both parents observed were Clay-colored Sparrows, but the possibility of confusing hybrids in the Carolinas should be kept in mind.

I thank David B. Freeland and Joseph A. Grom for help with this note.

BRIEFS FOR THE FILES

HARRY E. LeGRAND JR.

(All dates 1979, unless otherwise indicated)

COMMON LOON: Three were late at Lake Pinehurst, Moore County, N.C., from 24 May to 5 June, and one remained until 12 June, as noted by Peggy Jansen.

PIED-BILLED GREBE: Flo Cobey observed one at Lake Wylie, near Charlotte, N.C., on 28 June, a rare June record for the inland part of the state.

PELAGIC BIRDS: Pelagic trips reported off North Carolina were made by Dave Lee off Oregon Inlet on 13 June and 11 July, and by Brainard Palmer-Ball off Morehead City on 20 July and 26 July. Totals for the trips were Cory's Shearwater: 26,129,12,5; Greater Shearwater: 13, 3, 2, 1; Sooty Shearwater: 1,0,0,0; Audubon's Shearwater: 1,2,3,7; Leach's Storm-Petrel: 4-5,0,0,0; Wilson's Storm-Petrel: 168,30,20,12; Pomarine Jaeger: 1,0,0,0; Bridled Tern: 3-5,10,0,0; Sooty Tern: 0,0,2,0.

DOUBLE-CRESTED CORMORANT: An individual was seen at the dam of Jordan Reservoir, Chatham County, N.C., on 2 and 11 June by Bob Lewis. Another was seen on 2 June at Parker's Pond in the lakebed of the Jordan Reservoir (Bob Lewis), and Mike Tove observed one at Lake Raleigh, N.C., on 5 June.

MAGNIFICENT FRIGATEBIRD: An adult male was seen by Thomas Newport in early July soaring over the surf at Atlantic Beach, N.C.

CATTLE EGRET: Rare in late summer in the piedmont was a single bird seen by Bob Lewis at the Jordan Reservoir on 28 July and 5 August. John Cely reported the presence of an apparently new heronry 6 miles S of Bamberg, S.C., this summer, with at least 3000 Cattle Egret nests.

GREAT EGRET: At least 130 were counted on 22 July at Jordan Reservoir by Bob Lewis. Many counts of 50 or more were noted by other birders there during the summer.

SNOWY EGRET: Single individuals were noted at Jordan Reservoir from 10 July to 5 August (many observers); at Lake Surf, near Vass, N.C., on 25-26 July (Jay Carter); and at Lake Wylie on 7-8 August (Flo Cobey). Three were seen by P.J. Crutchfield at Fayetteville, N.C., on 9 July.

LOUISIANA HERON: One to three were seen by many birders at Jordan Reservoir from 7 July to 5 August. Also noteworthy were singles at Winston-Salem, N.C., on 31 July

- (Kevin Hints, Ramona Snavelly), and at Lake Cammack in Alamance County, N.C., on 25 July (Allen Bryan).
- BLACK-CROWNED NIGHT-HERON:** Rare in summer were birds near Fayetteville on 29 May, 19 July, and 31 July, as noted by P.J. Crutchfield, and at Pee Dee National Wildlife Refuge, N.C., on 2 July (Douglas McNair).
- YELLOW-CROWNED NIGHT-HERON:** One to two immatures were seen by Barbara Roth and Bob Lewis on many dates in July at Jordan Reservoir. An immature was observed in Winston-Salem from 5 to 19 July by Ann Miller and Charles Frost, and another immature was seen on a roof of a house in that city on 27 July by Kevin Hints.
- LEAST BITTERN:** Tom Howard and Bill Lazar found three nests with young, plus four adults, on 18 July at Johnson's Mill Pond near Southern Pines, N.C. Frank Enders observed one at Occoneechee Neck in Northampton County, N.C., on 26 May.
- AMERICAN BITTERN:** A record suggesting breeding was that of a bird heard calling at Buxton, N.C., on 3 June by James Parnell, Robert Soots, and Leon Jernigan. An inland bird was seen out of season at Jordan Reservoir on 11 July by Bob Lewis.
- WOOD STORK:** Quite unusual was one seen at North River marsh in central Carteret County, N.C., on 5 August by Allyn Powell et al.
- WHITE IBIS:** Over 2000 nests were noted this summer by John Cely in a heronry 6 miles S of Bamberg. The only piedmont report of note was three on 12 July at Jordan Reservoir (Bob Lewis).
- WHISTLING SWAN:** Douglas McNair noted two lingering immatures at Bodie Island, N.C., on 15 June.
- BLACK DUCK:** An adult was observed with 12 ducklings at Jordan Reservoir on 9 July by Barbara Roth. It is not known if the birds were wild or feral, though one may question whether Black Ducks with no history of captivity breed in the piedmont.
- BLUE-WINGED TEAL:** A male was quite early at Winston-Salem on 13-15 July, as noted by Pat Culbertson, Charles Frost, and Ramona Snavelly.
- REDHEAD:** A very rare summer report was that of a male seen by John Fussell at Fort Macon State Park, N.C., from the spring through 11 July.
- COMMON EIDER:** Douglas McNair observed an apparently sick first-spring male at Long Beach, N.C., on 11 June, a noteworthy summer sighting.
- HOODED MERGANSER:** Tom Haggerty noted two immatures at Price Park, near Blowing Rock, N.C., from 28 to 30 June. He believes that they were raised in the area.
- MISSISSIPPI KITE:** Merrill Lynch and Julie Moore observed an immature, as well as an adult, in eastern Halifax County, N.C., on 4 July. The immature was probably raised in the area, though conclusive proof of breeding is still lacking in the state.
- COOPER'S HAWK:** Rare summer records were single individuals seen near Clemson, S.C., on 14 June (Harry LeGrand); near Fayetteville on 14 July (P.J. Crutchfield); and at Bayleaf near Raleigh on several dates during the summer (Dave Lee).
- BROAD-WINGED HAWK:** Noteworthy coastal plain reports were singles on 10 June near Tatum, S.C. (Jay Carter); on 24 June at Santee National Wildlife Refuge, S.C. (Douglas McNair); and on 21 July near Laurinburg, N.C. (Jay Carter).
- BALD EAGLE:** North Carolina sightings were made at Fontana Lake, N.C., on 2 July by Duncan Hollar (one adult); near Ocracoke, N.C., on 16-17 June by Robert Soots and again on 27 July by James Parnell (one immature); and an adult at Beaverdam Reservoir north of Raleigh from 2 June to 4 August, seen by many observers.
- OSPREY:** Unusual in summer were single birds seen at Price Park, near Blowing Rock, on 25 June by Roger Stone; near Fayetteville on 27 June by P.J. Crutchfield; and near Chapel Hill, N.C., on 8 July by Jim Pullman and Elizabeth Teulings.
- BLACK RAIL:** Bob Lewis heard one calling at a marsh in the Jordan Reservoir lakebed, near Farrington, on 11 July, and he and several other birders flushed the rail the following day. It was apparently a nonbreeder, as it was not heard before or after these dates. Two

were seen by Brainard Palmer-Ball on 27 July at North River marsh. The birds were attracted into view with the use of a tape recorder.

PURPLE GALLINULE: Pat Probst and Evelyn Dabbs reported a pair with five young this summer at a pond with a heronry near Boykin, S.C., at the western edge of the coastal plain.

AMERICAN COOT: Two birds, apparently nonbreeders, were on a pond at the east end of Ocracoke Island on 13 June, as noted by Douglas McNair. Jay Carter saw two coots at Lake Surf on the early date of 25 July.

COMMON SNIBE: An individual was approximately a month early at Lake Surf on 25-26 July (Jay Carter).

LONG-BILLED CURLEW: Two were again seen at Bird Shoal, near Beaufort, N.C., on 18 July, by John Fussell and Dana Carter; and Brainard Palmer-Ball saw one there on 28 July. Another was noted by James Parnell at Ocracoke on 27 July.

UPLAND SANDPIPER: A good inland count, especially for the fall migration, was a flock of 13 observed by Douglas McNair at Shaw Air Force Base, near Sumter, S.C., on 29 July.

WILLET: Two were rare inland at Jordan Reservoir on 18 July (Bill and Margaret Wagner, Johnnie Payne), and one was seen on 21 and 24 July by Bob Lewis.

GREATER YELLOWLEGS: Notable records at Jordan Reservoir were one on 16 June (Jim Pullman, Elizabeth Teulings) and three on 9 July (Dennis Alwon).

LESSER YELLOWLEGS: One was quite early at Jordan Reservoir on 10 July, as seen by Bob Lewis.

RED KNOT: Douglas McNair counted 125 at Ocracoke Island on 13 June, a good total for so late in its northbound migration.

PECTORAL SANDPIPER: Jim Pullman and Elizabeth Teulings observed three very early migrants on 30 June, and one on 7 July, at Jordan Reservoir.

WHITE-RUMPED SANDPIPER: Six were seen at Ocracoke Island on 3 June by James Parnell, Robert Soots, and Leon Jernigan.

SHORT-BILLED DOWITCHER: Noteworthy inland sightings were one to three at Lake Surf from 24 to 26 July (Jay Carter), six at Winston-Salem on 12 July (Barbara Page, Ramona Snively), and up to five at Jordan Reservoir from 14 to 22 July (Bob Lewis).

STILT SANDPIPER: A very rare June report was that of an individual seen on the 13th at Ocracoke Island by Douglas McNair. Bob Lewis noted one at Jordan Reservoir on 14 July, and another (or perhaps the same bird) there on 5 August.

WESTERN SANDPIPER: One seen by Jay Carter at Lake Surf on 25 July was noteworthy; this species is not really a rare bird in fall on inland mudflats, but it can be easily overlooked among the somewhat more numerous Semipalmated Sandpipers.

MARbled GODWIT: Notable summer reports were four at Ocracoke Island on 13 June (Douglas McNair) and 20 there on 12 July (David Mehlman).

SANDERLING: One in breeding plumage was observed by Jay Carter at Lake Surf on 24-26 July, a rare inland record.

NORTHERN PHALAROPE: John Fussell and Mike Tove saw a female at Brant Island, next to Fort Macon, on 2 June.

HERRING GULL: A pair again nested on the lower Cape Fear River, N.C., this summer, as reported by James Parnell.

FORSTER'S TERN: An adult was seen by Douglas McNair at Lake Marion, S.C., on 28 July, an early date in fall for this species inland.

COMMON TERN: Single individuals were noted at Lake Marion on 28 July by Douglas McNair, and at Lake Surf on 26 July by Bill Lazar.

ROSEATE TERN: Joel Hornstein et al. observed several birds at Huntington Beach State Park, S.C., on 12 May, a notable sighting of this rare species.

- SOOTY TERN:** One was seen on Morgan Island, near Cape Lookout, N.C., on 29 June by Henry Haberyan; no indication of nesting was reported. Another was found at Bull's Island, S.C., on 22 July by Michael Richmond and Suzanne Finger.
- BLACK TERN:** Bob Lewis noted three at Jordan Reservoir on 12 July and two there on 24 July; Jay Carter reported four at Lake Surf on 24 and 26 July.
- CASPIAN TERN:** Four birds at Lake Marion on 28 July were somewhat early and uncommon, as seen by Douglas McNair.
- BLACK-BILLED CUCKOO:** Harry LeGrand heard one near Cullowhee, N.C., on 15 June, a rare summer record for that area. A rare piedmont summer report was that of one seen by Kevin Hints along Silas Creek in Winston-Salem on 4 July.
- CHUCK-WILL'S-WIDOW:** Rare for the Chapel Hill area in summer was one heard by Bob Lewis near Carrboro on 4 and 6 June; two were heard on 9 June.
- WHIP-POOR-WILL:** The species was heard on many occasions this summer in the Fayetteville area by P.J. Crutchfield, and John Cely noted calling individuals along the entire South Carolina fall line during the season, ranging from North Augusta to Cheraw. The most unusual report, however, was one heard at Harker's Island, N.C., on 6 June by Skip Prange.
- COMMON Nighthawk:** Late and notable was a nest with one egg found by Jay Carter on 20 July near Hoffman, N.C., at the Sandhills Game Land.
- WILLOW FLYCATCHER:** P.J. Crutchfield reported two singing birds near Fayetteville on 21 May.
- OLIVE-SIDED FLYCATCHER:** A highly significant report, possibly indicating breeding, was that of a bird heard singing on 7 June in Linville Gorge, Burke County, N.C., by Gail Whitehurst. The habitat was a mostly hardwood forest with some pines in a very rugged ravine.
- CLIFF SWALLOW:** One was out of range at Ocracoke Island on 13 June (Douglas McNair), and three were probably early migrants at Lake Cammack in Alamance County on 27 July (Allen Bryan).
- PURPLE MARTIN:** Large numbers of postbreeding birds were noted at Hamlet, N.C., on 3 July by Douglas McNair (2500 birds) and near Fayetteville on 9 July by P.J. Crutchfield (1000 birds).
- HORNED LARK:** Jay Carter observed two larks in a cotton field between Raemon and Maxton in western Robeson County, N.C., on 19 June. This locality appears to be somewhat southeast of the known breeding range.
- BLACK-CAPPED CHICKADEE:** Merrill Lynch saw a family group, including several immatures begging for food, at Richland Balsam, N.C., on 23 July. Actual breeding evidence for this species in the state is skimpy, and no nest has yet been found.
- RUBY-CROWNED KINGLET:** Completely out of season was an individual seen and heard singing at Table Rock State Park, S.C., on 2 June by Harry LeGrand. Just as unusual was one seen by Charles Frost at Winston-Salem on 19 June.
- SOLITARY VIREO:** Clark Olson noted two birds, presumably breeders, at Schenck Forest near Raleigh on 3 June.
- WORM-EATING WARBLER:** Rare summer records were singles seen along Silas Creek in Winston-Salem on 4 July (Kevin Hints), and at North River community in Carteret County, N.C., on 16 July (Brainard Palmer-Ball).
- SWAINSON'S WARBLER:** Single birds were noteworthy in southern Franklin County, N.C., in the piedmont, on 3 June (Eloise Potter) as well as in the coastal plain near Antioch, Hoke Co., N.C., on 18 June (Jay Carter) and at North River community on 16 July (Brainard Palmer-Ball).
- BAY-BREASTED WARBLER:** Jim McConnell saw a female at Durham, N.C., on the late date of 19 May.

- BLACKPOLL WARBLER:** A singing male was carefully observed at Durham on the very late date of 8 June 1975, as reported by Jim McConnell.
- OVENBIRD:** P.J. Crutchfield found a nest on 22 June near Fayetteville, and he noted birds at several places this summer in Cumberland County.
- NORTHERN WATERTHRUSH:** One seen by James Parnell was rather early at Pea Island, N.C., on 27 July.
- NORTHERN ORIOLE:** Presumably a nonbreeder was a male seen from spring until 8 July in a Sumter yard, as reported by Evelyn Dabbs.
- SCARLET TANAGER:** Possible breeding individuals in South Carolina were a singing bird at Mayesville during most of June (Evelyn Dabbs) and a male seen at Little Lynches River, near Bethune, on 1 July (Douglas McNair).
- PAINTED BUNTING:** Douglas McNair found five or six pairs along the Broad River at Columbia, S.C., during the summer.
- DICKCISSEL:** A pair was observed by Harry LeGrand on several dates in June near Pendleton, S.C., and a juvenile was seen there on 4 July.
- HOUSE FINCH:** Ramona Snively reported a colony of about 40 birds in Winston-Salem this summer, in addition to several smaller colonies and numerous single pairs in that city. At Raleigh, John Edwards had a peak of 10 birds at his feeder on 17 July.
- RED CROSSBILL:** A pair was seen flying over Highlands, N.C., on 1 August by Merrill Lynch.
- GRASSHOPPER SPARROW:** Douglas McNair noted five or six singing birds at Shaw Air Force Base near Sumter on 29 July. This species is rarely found in summer in the coastal plain.
- WHITE-THROATED SPARROW:** Ann Pollard observed a late individual in Winston-Salem on 5 June.
- CORRIGENDUM:** The Lincoln's Sparrow specimen reported from Cullowhee, N.C., on 29 August 1978 (Chat 43:43) was actually that of a juvenile Song Sparrow.



Roundtable

... with Louis C. Fink

New General Field Notes Editor

Because of new responsibilities pertaining to the inauguration of a graduate program in biology at UNC-Wilmington, James F. Parnell has resigned as General Field Notes Editor of *Chat* after more than 13 years on the staff. Dr. Parnell's resignation was reluctantly accepted by an Editor who greatly respects his knowledge as a biologist and his judgment in editorial matters. Fortunately, Jim will continue to serve the journal in an advisory capacity.

David S. Lee, curator of birds and mammals at the North Carolina State Museum, is the new GFN Editor. Parnell will complete work on items submitted prior to 1 December 1979, but all new notes pertaining to birds seen in North Carolina should be sent to Lee at P.O. Box 27647, Raleigh, N.C. 27611. South Carolina contributors should continue to submit notes to Julian R. Harrison.

Birding in Ashe County

Elsewhere in this issue Harry LeGrand and Eloise Potter report on a successful Breeding Bird Foray in Ashe County, N.C. They hope other bird students will provide additional records for the area. Ashe County offers visiting naturalists quiet country roads through woodlands, pastures, and fields and along the banks of the New River. The adventuresome can rent canoes in West Jefferson. There are campgrounds on the road to Mount Jefferson State Park and at the confluence of the North and South Forks of the New River. Motels and restaurants are found in Jefferson, West Jefferson, Shatley Springs, Glendale Springs, and Laurel Springs; but outside these towns even filling stations and country stores are scarce, and most of them are closed on Sundays.

The only tourist attraction in the county—other than enjoying the out-of-doors—is art. Three widely acclaimed contemporary religious frescoes adorn St. Mary's Episcopal Church in Beaver Creek. They are the work of Ben Long of Statesville, N.C., and Florence, Italy. A fourth, to be titled "The Last Supper," is planned for Holy Trinity Episcopal Church in Glendale Springs.

If you want to vacation and study nature far from the tourist traps, Ashe County is your kind of place. Just remember that those who venture on the back roads are well advised to have a full tank of gasoline, a picnic lunch, and a county map.

CBC Members in Print

JAMES F. PARNELL and ROBERT F. SOOTS JR. are the authors of the *Atlas of Colonial Waterbirds of North Carolina Estuaries*, which was issued by the UNC Sea Grant Program in June 1979. Copies are available at \$7 each from UNC Sea Grant, 105 1911 Building, North Carolina State University, Raleigh, N.C. 27650. The chief purpose of the atlas is to provide information on the presence, population levels, and nesting requirements of colonial nesting waterbirds so their needs can be considered by the various agencies working in the estuaries and on the barrier islands during the early stages of planning processes. Data in the atlas can be used to determine, for example, when and where to dump dredged materials

without disturbing the nesting colonies. Dr. Parnell, who is General Field Notes Editor of *Chat*, teaches in the Department of Biology at UNC-Wilmington. Dr. Soots teaches in the Biology Department at Campbell University, Buies Creek, N.C.

DENNIS M. FORSYTHE and WILLIAM BRUCE EZELL JR. edited the *Proceedings of the First South Carolina Endangered Species Symposium*. Among the authors of papers in this valuable report are JOHN E. CELY, MICHAEL R. LENNARTZ, ROBERT G. HOOPER, RICHARD F. HARLOW, GENE W. WOOD, PAUL B. HAMEL, DAVID F. URBSTON, DONALD N. MUDGE, and LEROY E. LEWIS. Copies are available by mail for \$7 (including handling charges) from the Nongame Endangered Species Section, S.C. Wildlife and Marine Resources Department, P.O. Box 167, Columbia, S.C. 29202. Checks or money orders should be made payable to the department.

The spring 1980 book list from the University of North Carolina Press includes two works of particular interest to CBC members. Authors of *Amphibians and Reptiles of the Carolinas and Virginia* are BERNARD S. MARTOF, WILLIAM R. PALMER, JOSEPH R. BAILEY, and JULIAN R. HARRISON III. Photographs are by JACK DERMID. The book is scheduled for release in April. *Birds of the Carolinas* by ELOISE F. POTTER, JAMES F. PARNELL, and ROBERT P. TEULINGS is scheduled for release in September. The approximately 300 photographs were contributed by about 50 photographers, mostly Carolina Bird Club members. Both books are listed at \$14.95.

New Ornithological Resource Now Available

The College of Charleston wishes to announce the publication of the *Wendell Mitchell Levi Library and Archives: Catalog of its Holdings* (70 p., Charleston, S.C., 1979). This catalog provides detailed bibliographic information for one of the world's leading collections of material on the pigeon and related topics. Copies are available at \$5 each (prepaid) from: Dr. Ralph Melnick, Robert Scott Small Library, College of Charleston, Charleston, S.C. 29401. Make checks payable to: The College of Charleston Library Associates.

BOOK REVIEWS

GUIDE TO THE NATIONAL REFUGES

Laura and William Riley. 1979. Anchor Press/Doubleday, 245 Park Avenue, New York, N.Y. 19917. 653 p. Illus. Index. \$14.95.

Ten of America's almost 400 national wildlife refuges lie within the Carolinas, and more than 60 are located in the Southeast or the nearby Middle Atlantic States. This guide tells where the refuges are located, how to get to them, where to camp or stay, the best times to visit, how to dress, what equipment to take, nearby points of interest, and where to write for more information. Birds, other animals, and plants of special interest are listed. Map end papers give the general distribution of the refuge system as a whole, and individual refuges are discussed in alphabetical order within the appropriate geographic division of the country. Each region has an introductory section that gives highlights of the refuges on a state-by-state basis and lists birds likely to be found at given refuges. The authors traveled more than 50,000 miles gathering information for their guide, and their personal experiences are reflected in some of the write-ups. This book contains a great deal of useful information for the traveling naturalist.—EFP

FIRST AID AND CARE OF WILD BIRDS

J.E. Cooper and J.T. Eley, editors. 1979. David & Charles, North Pomfret, Vermont 05053. 288 p. Illus. Index. \$27.50.

Veterinarians and others who are seriously interested in the care of sick or injured birds will find a wealth of useful information in this book. The authors of the various chapters include 16 men and women with practical experience in the care of birds. Chapter topics range from wild bird hospitals and the law to diseases, parasites, poisons, oil pollution, anaesthesia and euthanasia, and cage and aviary design and construction. Most of the contributors are British, so most of the birds mentioned are European. This is no big problem because techniques that work for one seedeater or bird of prey should work for any other species with the same habits. The major disappointment in this book for the non-British reader is that the chapter on the laws governing the treating of wild birds is limited to the British laws. A list of the proper agencies to write for information in various countries would be a useful addition. Certainly a major international agreement like the Migratory Bird Treaty Act should have been given at least one paragraph in an edition intended for distribution in the United States. Nevertheless, this book is an extremely valuable reference for anyone who is involved in the rehabilitation of sick, injured, or oiled birds.—EFP

BIRDS: THEIR LIFE, THEIR WAYS, THEIR WORLD

Text author Christopher Perrins, consultant editor C.J.O. Harrison, illustrations by Ad Cameron. 1979. The Reader's Digest Association, Inc., Pleasantville, N.Y. 412 p. 1000 color paintings. \$15.99.

This large book (8½ x 11 inches on heavy, coated paper) is in two parts. First is a description of the lives of birds: feeding, habitats, social behavior, migration, and much more. Second is a listing and description of all the 176 bird families that have ever lived on earth. There are full-color pictures of birds, illustrations of their anatomical features, and maps on every page.

I cannot decide whose library this volume would fit. Beginners will have trouble with the announcement that the Limpkin is restricted to the neotropical zoogeographical region. Advanced students do not need the explanation of class, order, family, genus, and species. There is certainly plenty of information and perhaps it should be considered a solid reference work.

The authors are not identified, although their style marks them as British (words like "amongst" and "oesophagus").

The illustrations are brilliant in tone, almost garish. The majority of birds shown are not American. I am not qualified to judge artistic merit, but the colors of the familiar birds do not seem true to my untrained eye.—LCF

PENGUINS

Roger Tory Peterson 1979. Houghton Mifflin Company, 2 Park Street, Boston, Mass. 02107. 238 p. Illus. Index. \$25.

Penguins, like owls, seem to fascinate everyone, even people who are not otherwise particularly interested in birds. CBC members who heard the author speak at Columbia, S.C., last spring know that Peterson is fascinated by penguins and takes pride in his nickname, the King Penguin. In this book Peterson again ably displays his talents as artist, photographer, writer, and scientist. Those of us who dare not hope to visit the Arctic, the Galapagos, and other faraway places where penguins live can now share Peterson's intimate knowledge of his favorite family of birds. This beautifully designed, lavishly illustrated, and handsomely bound book would be a welcome addition to any library. Although this book was undoubtedly written for adults, the large print and informal text should attract many young readers.—EFP



MEMBERSHIP

Carolina Bird Club, Inc., is a non-profit educational and scientific association founded in March 1937 and open to anyone interested in the study and conservation of wildlife, particularly birds. Dues, contributions, and bequests to the club are deductible from State and Federal income and estate taxes. Checks should be made payable to Carolina Bird Club, Inc., and sent to CBC Headquarters, P.O. Box 1220, Tryon, N.C. 28782.

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PUBLICATIONS

All CBC members not in arrears for dues receive *The Chat*, a quarterly journal devoted to bird study and conservation, and the *CBC Newsletter*, which carries information about meetings, field trips, and club projects. Articles intended for publication in *Chat* may be sent to the Editor or to the appropriate department editor listed in a recent issue of the bulletin. Items for the *Newsletter* should be sent to its Editor, Clyde Smith, 2615 Wells Avenue, Raleigh, N.C. 27608. Correspondence regarding memberships, changes of address, or requests for back numbers of either publication should be sent to CBC Headquarters, P.O. Box 1220, Tryon, N.C. 28782.

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The Chat

(USPS 101-020)

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The Ornithological Society of the Carolinas
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OUR COVER—James F. Parnell photographed the Pine Siskin, which is a familiar winter visitor in the Carolinas. For a discussion of the status of this species in the mountains during the breeding season, see the article on Roan Mountain (p. 32-36).

A BUNTING IN THE HAND

SAMUEL A. TIPTON and ISABEL H. TIPTON*

When someone describes a mature male Painted Bunting—a small sparrow-sized bird with a blue head, red eye-ring, bright emerald green back, purplish crimson rump, bright red underparts, claret-colored wings and tail—it seems very improbable. When you see one in the bush there's no mistaking it. But there is no thrill quite like holding one in the hand.

During the six summers, 1973 through 1978, we have had a bunting in the hand 445 times. These close encounters have involved the 88 individual birds we have banded. Of these only 35 have never been in the hand again; the other 53 have shown up frequently. One colored male banded in 1973 has been back every year since and in the nets several times each summer. He has lived at least eight summers—the record is ten!

All buntings are green when they leave the nest, and the females remain green, with yellow-washed underparts. (Sometimes underparts turn a bit rosy in old females.) The question of when males become fully colored has been debated for a long time. They are certainly green through the summer after hatching. We have observed green males singing and in breeding condition, but we do not know how successful they are at finding a mate. Erma Fisk (Wintering populations of Painted Buntings in southern Florida. *Bird-Banding* 45:353-359) has banded many wintering buntings in Homestead, Florida. She says green males that come to her in the fall of the year they are hatched return to her colored the following fall. This would indicate that males get their color at the molt after the first breeding season. Indeed, we banded two green males in breeding condition on 22 and 23 July 1977, and they were both back on 15 September in full color.

Of course it is only in the hand that it is possible to tell for sure whether a green bird is a male or a female. During the breeding season the gonads of male birds increase in size and cause a cloacal protuberance, which the females do not have. The females of most species have a brood patch—a vascular, warm, bare region on the breast—which can be observed by blowing the feathers apart. The males of some species, woodpeckers for instance, also have a brood patch, so this is not always a definitive characteristic, but it works for buntings. Birds whose sex is determined by these characteristics we call "proven" males and females. The breeding season only lasts from May through August, however, and first-year birds do not breed anyway. For nonbreeding birds we must resort to other characteristics that are less than definitive. Green males usually have longer wings than females, and careful measurement can indicate which is which. This is not entirely accurate because some males are small and some females are large. There is considerable overlap in the middle range where we must say "sex unknown."

Young birds have incompletely ossified skulls for several weeks and even months after hatching. A careful examination with a magnifying glass through the relatively transparent skin on the head will tell whether a bird has been recently hatched.

Obtaining this kind of information about birds is one of the reasons for taking part in the U.S. Fish and Wildlife Service's program of bird-banding. The numbered aluminum band gives the bird an unmistakable identity wherever it goes and for as long as it lives. Of course a small bird like a Painted Bunting must be in the hand for the number to be read, so we put two colored bands on each bird in addition. Now we can recognize an individual through binoculars. Although we have had many of our birds return to us, we are still waiting for a report from someone who has seen our color-banded birds along the way.

113 West 23rd Street Long Beach, Southport, N.C. 28461, 12 February 1979.

*Deceased 21 April 1980.

BIRD FINDING ON ROAN MOUNTAIN, MITCHELL COUNTY, N.C.

ELOISE F. POTTER and HARRY E. LeGRAND JR.

Botanists have long recognized Roan Mountain and its neighbors in northwestern North Carolina and adjacent eastern Tennessee as the home for many extinct, rare, and endangered plants (Cooper et al. 1977). Although Roan Mountain, which lies astride the line between Carter County, Tenn., and Mitchell County, N.C., is a favorite gathering place for Tennessee naturalists, Tar Heels tend to do their mountain bird watching elsewhere. There are less than a dozen references to Roan Mountain in more than 40 volumes of *Chat*.

In recent years the late Fred W. Behrend and other observers have found a number of unusual birds on Roan Mountain, but in most cases the accounts published in *Migrant* and *American Birds* do not clearly state whether the birds were in North Carolina or Tennessee. Following reports of Magnolia Warblers (*Dendroica magnolia*) on the Roan in late June and early July 1975 (Eller 1975, Herndon 1977), we decided North Carolinians should have a Breeding Bird Foray on the Mitchell County side of the mountain. Margery Plymire of Linville, N.C., and Tom Haggerty of Boone, N.C., helped us conduct a 1-day survey on 7 June 1979. We saw no Magnolia Warblers, but we did find a singing Hermit Thrush (*Catharus guttatus*)—the first known breeding season occurrence of this species south of Virginia.

THE ROAN

Rising to 6286 feet, Roan Mountain is the highest peak in the small but lofty Unaka Mountain Range, also known as the Iron Mountains. Its spruce-fir forest and spectacular rhododendron bald, now part of Pisgah National Forest, are situated in Mitchell County and are accessible by a paved U.S. Forest Service road from Carver's Gap, the point on the state line where NC 261 from Bakersville meets TN 143 from the town of Roan Mountain. The Appalachian Trail follows the state line in a generally east-west direction across the Roan, continuing eastward from Carver's Gap to Grassy Ridge Bald and Jane Bald.

The paved Forest Service road passes just to the south of Roan High Knob, the highest point on the mountain, where asphalt gives way to gravel roads leading to a series of parking lots serving overlooks, comfort stations, camping and picnicking sites, the Information Center, the Rhododendron Gardens, and relatively easy hiking trails. From the loop at the end of the gravel road west of the Information Center, a trail leads to an observation platform on Roan High Bluff. All of the roads and visitor facilities described above lie on the North Carolina side of the mountain.

On a clear day the Roan offers a view of some 50,000 square miles covering portions of six states and including the peaks of about 100 mountains over 4000 feet high (U.S. For. Serv. 1976). No wonder late nineteenth century tourists rode the steep narrow roads in stage coaches and carriages from the nearest railroad station to the Cloudland Hotel on Roan Mountain. After the hotel closed in 1900, the stands of mature spruce and fir were harvested, and the rhododendron root-stock was dug for the nursery trade. From the straggly remains grew the neat clumps that dot the grassy meadows of the 600-acre Rhododendron Gardens today.

THE FORAY

The morning of the Roan Mountain Breeding Bird Foray, 7 June 1979, we met at Carver's Gap at 0630 and spent a few minutes watching an Alder Flycatcher

(*Empidonax alnorum*) singing in a small stand of alders at the intersection of NC 261 and the Forest Service road. Then we drove one car to the parking lot at the Rhododendron Gardens and began hiking the loop road. Almost immediately LeGrand heard a Hermit Thrush singing. The bird was a great distance away, apparently in the direction of Roan High Bluff. As we walked the trail to the observation platform, we passed the persistent singer without seeing it. The song seemed to come from first one place and then another, but we never saw any movement. At times we thought there were two different birds. Haggerty stalked the bird with extraordinary patience and eventually found it perched in the top of a Fraser Fir (*Abies fraseri*) almost directly over the trail. All members of the party were able to see the bird and identify it satisfactorily. As we watched the singing bird, we became convinced that all the songs we had heard came from this one thrush. Although the bird appeared to be on territory, we found no mate, young, or other evidence of breeding.

Upon returning from Roan High Bluff, we visited the Rhododendron Gardens and then headed for Carver's Gap. Haggerty chose the hiking trail, and the rest of us walked down the paved road. After eating lunch at the gap, we retrieved the car from the top of the mountain and hiked the Appalachian Trail to Jane Bald. By midafternoon we had finished surveying the readily accessible portions of Roan Mountain in Mitchell County.

In all, we recorded 27 species, of which only the Hermit Thrush was unexpected. The absence of hawks and vultures was undoubtedly the result of poor visibility; clouds hid the Roan's fabled vistas throughout the day. The name of each species is followed by the number of individuals seen or heard. An asterisk (*) indicates one or more birds apparently on territory.

Common Flicker 1, Hairy Woodpecker 1, Alder Flycatcher 5*, Barn Swallow 3, Blue Jay 3, Common Raven 3, Common Crow 2, Red-breasted Nuthatch 8*, Winter Wren 15*, Gray Catbird 10*, Brown Thrasher 1*, American Robin 15 (mostly on balds), Hermit Thrush 1*, Veery 25*, Golden-crowned Kinglet 18*, Solitary Vireo 8*, Chestnut-sided Warbler 15*, Common Yellowthroat 3*, Canada Warbler 10*, Scarlet Tanager 1*, Rose-breasted Grosbeak 1*, Pine Siskin 4, American Goldfinch 25, Rufous-sided Towhee 12*, Vesper Sparrow 2* (on grassy balds), Dark-eyed Junco 50* (one nest with three eggs), Song Sparrow 3*.

The major disappointment of Roan birding is that the spruce-fir forests are second growth and only of medium height. This probably explains our failure to find Brown Creepers, Black-throated Green Warblers, Blackburnian Warblers, and a few other species generally found in mature spruce-fir forests.

SPECIES OF SPECIAL INTEREST

Several unusual species have been reported from Roan Mountain during the breeding season, and additional field work is needed to clarify their status.

Saw-whet Owl. Simpson (1968) reported hearing a Saw-whet Owl (*Aegolius acadicus*) cooing on Roan High Bluff the night of 13 April 1968. If there is a positive breeding record for Roan Mountain, we are not aware of it.

Alder Flycatcher. Traill's Flycatchers were reported from Roan Mountain (no site given) on two occasions in June 1970 (Smith 1970)—before the species was split into Alder and Willow. Smith and Finucane found three on 21 June, and Smith and Eller found two on 25 June. In the light of subsequent events, the birds appear to have been Alders, the vanguard of a southward movement that has resulted in breeding season reports as far south as southern Haywood County, N.C., and positive evidence of breeding from the vicinity of Carver's Gap (Eller 1978, LeGrand 1979). We found five singing males during the Foray. Three of our birds were along the Appalachian Trail between Carver's Gap and Jane Bald, where nesting occurred in 1978. These birds were,

as in the previous year, in the dry shrubby growths dominated by Green Alder (*Alnus crispa*), also called Mountain Alder. A fourth bird was heard just to the south of Roan High Bluff in a clearcut area of spruce-fir saplings and deciduous shrubs. The fifth one was, as mentioned earlier, in habitat considered typical for the species—the small alder thicket beside NC 261. Thus, during the 1970s the Alder Flycatcher appears to have become an established breeder in the North Carolina mountains at several high-elevation bogs, shrub balds, and stands of spruce-fir saplings. The Haywood County site, incidentally, is not at the main overlook for Graveyard Fields but along a gravel access road leading to a parking lot that serves the adjacent Shining Rock Wilderness Area.

Olive-sided Flycatcher. Rick Phillips and Fred Alsop saw one Olive-sided Flycatcher (*Nuttallornis borealis*) on 17 and 19 June 1977 (Eller 1977). They reported no evidence of nesting.

Black-capped Chickadee. One or two Black-capped Chickadees (*Parus atricapillus*) were reported on several dates in June and July of 1978 (Eller 1978). The absence of sightings prior to 14 June suggests that the birds were post-breeding wanderers rather than local breeders.

Hermit Thrush. Although we found no proof of breeding on 7 June, the possibility of nesting in the Roan Mountain area should not be discounted. The Hermit Thrush is known to breed in the mountains of Virginia (Larner 1979). The species has been recorded in summer as far south as Mount Rogers on the Smyth-Grayson County line, where it was first reported in June 1966 (Scott 1966). This isolated population appears to be increasing (Scott 1975), and the Roan is only 50 to 60 air miles SW of Mount Rogers.

Magnolia Warbler. Herndon (1977) reported Magnolia Warblers as summer visitors on Roan Mountain on 4 July 1959, 28 July 1962, and 30 June through 16 July 1975. In 1975 one to three singing males were found on several occasions in the vicinity of the Rhododendron Gardens and the gravel loop road. No females or young were seen, but Eller (1975) reported seeing "adults carrying food" on 14 July. Surprisingly, this important observation was not mentioned by Herndon (1977). Cairns (Pearson et al. 1942, p. 316) reportedly found Magnolia Warblers breeding in Buncombe County, N.C., during the late 1800s. Also, Joseph and Walter Hall (1972) saw one on Mount Mitchell in nearby Yancey County, N.C., on 5 June 1972. Recent summer records indicate that the Magnolia Warbler might be breeding sporadically in North Carolina, though positive evidence is still lacking. Because reports of the species in the southern Appalachians in summer have increased within the past decade, it seems inevitable that breeding populations will become established in the state's spruce-fir forests if present trends continue.

Purple Finch. Rick Phillips and Fred Alsop found one to two singing Purple Finches (*Carpodacus purpureus*) on 16 and 19 June 1977 (Eller 1977). This species was reported nesting in Highland County, Va., in June 1975 (Larner 1979). There are summer records of single Purple Finches from several sites in the Virginia mountains, including Mount Rogers, dating back to 1966 (Scott 1975).

Pine Siskin. Since about 1940 there have been persistent reports of Pine Siskins (*Carduelis pinus*) in summer from the southern Appalachians (Stupka 1963, Larner 1979, and others), including Roan Mountain (Herndon 1977 and others). Although Pine Siskins have been recorded on the Roan every month of the year, proof of breeding is still lacking. Typically, the four birds we saw on 7 June flew overhead in a flock; however, social behavior is not, for this species, inconsistent with breeding. Palmer (1968, p. 434) notes that other siskins may accompany the food-bearing male and even perch in the nest tree, but they do not trespass upon the small defended area around the nest. Social behavior during nesting undoubtedly contributes to the difficulty of

obtaining proof of breeding in the southern Appalachians—proof that appears to be long overdue.

Red Crossbill. This erratic species was first reported on the Roan in summer when Behrend and Dubke (Herndon 1977) found seven Red Crossbills (*Loxia curvirostra*) on 15 July 1962. There are now reports from Roan Mountain and vicinity for every month of the year, but no evidence of local breeding.

White-winged Crossbill. Flocks of up to 100 White-winged Crossbills (*L. leucoptera*) were reported from Roan Mountain in the winter of 1970 (Behrend 1970a), and 40 were still present on 25 May (Behrend 1970b). Although there is not even a hint that this species may breed in North Carolina or Tennessee, there is a summer record from the mountains of Virginia (Larner 1979).

Roan Mountain offers the bird student easy access to a wide variety of high montane habitats: spruce-fir forest, hard wood forest, rhododendron bald, grassy bald, and the southernmost known Green Alder thicket in the United States. Unlike our other alder (*A. serrulata*), this northern plant is not confined to wet places and grows on rocky slopes. Indeed, Roan's most significant feature to ornithologists lies in the open-country habitats (the last three listed above), which are scarce on other well-known mountains in the state. The Roan is a likely nesting site for northern species that are in the process of extending their breeding ranges southward in the Appalachian Mountains. In addition, there are good overlooks for autumn hawk and eagle watching, and the grassy balds regularly attract wintering Snow Buntings (*Plectrophenax nivalis*) (Browne 1977).

It's time for Tar Heel birders to claim the Roan as their own.

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We appreciate the help Margery Plymire and Tom Haggerty gave us on the Foray. Having the use of Mrs. Plymire's car in addition to LeGrand's greatly facilitated coverage of the area.

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Backyard Birding

... with Gail T. Whitehurst

It rather saddens me that many birders tend to turn up their noses at the backyard birdwatcher. I will admit that at first glance it does not appear to be likely spot for anything of interest to occur; but, believe me, some of the best and most unusual sightings I have ever had were right here in my yard. The most fascinating facets of bird behavior can be found on my own lawn, in my shrubs and treetops. Now it might be well to suggest here that just watching birds at a feeder can get old after a while. Once you learn what kinds of food various species eat, how they go about it, and which are the aggressors, feeder watching becomes rather dull.

If, however, you feed and attract the birds on a year-round basis, as I do, and spend as many hours as possible every day observing them, you come to see and learn much more about the individual species than can ever be done on a field trip. Now I love field trips and go every chance I get. It is exhilarating to go out to a lake on a crisp winter day and see ducks, gulls, and hawks. During spring migration it is a delight to spend a morning along a woodland stream and see and hear the many warblers coming through in migration. On cool fall days there is nothing more pleasurable than to tramp through wood and field looking for fall migrants. In summer, what fun it is to observe the shorebirds while on a beach vacation. If you desire to see as many different species as possible, then you must cover as many different kinds of habitat as you can. But, alas, life is not just one long field trip and most of us have to do our birding where we are.

The advantages in birding at home are many. First off, is the matter of identification. Birds seen day after day—in rain or sun, during the prenuptial and annual postnuptial molts, as fledglings and juveniles, in off-colored plumages (albinistic, melanistic, or oddly marked)—become easy to identify at a glance. You learn all the songs and calls, which do vary from bird to bird within a species. You learn the postures and poses and general behavior traits of individuals and species. When you know all these things well, then you are able to discern the presence of the stranger stopping by your place. A flick of a tail, a new note or song, a new shape perched in a tree or flying overhead will catch your eye and ear immediately, and you find yourself seeing the bird that others miss.

I think that long ago my neighbors accepted the fact that I am some sort of nut, daffy but harmless. Why? Because I rarely go outside without my binoculars. I am nearsighted and depend on them to see what birds are across the yard, under the hedges, or in the trees. It probably does appear odd to see me hanging up a wash with binoculars around my neck, but that passing migrant whose call I hear will not linger. Even when I work in the yard, the glasses are nearby. They rest on my kitchen counter when I am indoors, so I can grab them quickly to see what is feeding in the driveway. It is most frustrating to me to be away from home shopping or visiting and

not have those glasses handy when I hear or see something interesting. Now that, you say, is carrying things a bit too far. Perhaps it is, but I cannot help seeing and hearing birds everywhere I go—very distracting at times, I might add. I shudder to think of all I would have missed if I did not have the glasses handy.

To be really effective, the backyard birder must check all points frequently. It is not enough to watch the feeders. You need to be aware of what is going on on the lawn, in the shrubs and treetops, and even in the sky overhead. This last habit of checking the skies has allowed me to see Bald Eagles, many different kinds of hawks, gulls, vultures, cormorants, ospreys, flocks of ducks (not always identifiable by me), and many individuals or small flocks of birds just passing by. I have learned, also, to check the skies when the small birds give alarm calls or stop what they are doing and look skyward. I saw a Bald Eagle once when I noticed a Brown Thrasher intently studying the sky. Another time I noted a Blue Jay looking up. Following its gaze, I saw a Rough-legged Hawk. The frenzied shrieks and cries of Blue Jays, Common Grackles, and crows often alert me to the presence of hawks. Once I saw a Barred Owl fly from a tree that crows and jays were mobbing. When the shrill alarm cry sounds and all birds suddenly disappear and all becomes deathly still, I begin looking for the Sharp-shinned Hawk. Sometimes it comes so swiftly and silently that it can pluck a little bird away right before my eyes. A few times I have frightened a Sharpie away by reacting instinctively the same way I do when a cat appears—clapping my hands and shouting at the intruder. I have learned that it takes close to 10 minutes before birds will resume their normal activity after a Sharpie has passed.

During spring and fall migration, particularly during the peak times and following a cold front (in fall) or warm front (in spring), it is imperative that I stay outside as much as possible, for one never knows what might appear. Birds flying, flitting through treetops, or working their way along the ground can be found most everywhere during these times. True, they will be more abundant in proper habitat, but they have to keep moving and in so doing will be found out of habitat—cities and towns, highways and farmlands have broken up the countryside, until there is no such thing as a continuous perfect path.

Let me give you a few illustrations. In addition to the hawks, eagles, waterfowl, and shorebirds that pass overhead, I have had, in my yard such warblers as Bay-breasted, Wilson's, Canada, and Blue-winged as well as a singing Louisiana Waterthrush! I have seen Peregrine Falcons, a Merlin, and a number of American Kestrels pass overhead, not to mention Belted Kingfishers, Green Herons, Canada Geese, and a very large tern that may have been a Caspian. One early November morning, some years ago, we heard Great Horned Owls calling, and I was able to get out at dawn and see three of them take off from nearby pines! I saw a Red-shouldered Hawk, which wintered in the area, take a tiny squirrel from the side of a tree. Skywatching, one can enjoy the Chimney Swifts, Purple Martins, Common Nighthawks, and Barn Swallows passing over. Ground watching is equally productive for spotting visiting sparrows, Ovenbirds, and thrushes.

Then, of course, intensive watching enables the birder to see the hurt, banded, and unusually colored birds. From my backyard I have seen a partially albino American robin, Starling, and Yellow-rumped Warbler. This winter there has been an albino American Goldfinch. These birds and those during the various molts can be very confusing to one who does not know the birds well. There is much more than color necessary for proper identification. Not every bird looks like the pictures in the bird books. Females of many species, juveniles, and warblers in fall plumage require a trained eye and ear.

Another advantage, to me, in backyard birding is the fact that the birds that feed and breed here are accustomed to my presence. They go about doing their thing

(Continued on Page 58)



Roundtable

... with Louis C. Fink

Winter Observations on the Inland Lakes of South Carolina

Probably no habitat in the Carolinas is so little explored by birders as the inland lakes, especially those in South Carolina. The reason is twofold: Ignorance of where to go and ignorance of what may be seen. Also a deterrent is the fact that either a boat or a good telescope is often required. The following observations were made by me through an 80X Questar in January of 1979. Only the most noteworthy sightings at each lake are reported. Unlike the previous two years, the winter of 1978-1979 was not unusually cold in the Carolinas.

Lake Greenwood, 6 January: Double-crested Cormorant 2, Ring-billed Gull 230, Bonaparte's Gull 160.

Wateree Lake, 7 January: Ring-billed Gull 50, Bonaparte's Gull 130.

Lake Murray: Horned Grebe, 30 on 6 January and 580 on 26 January.

Fishing Creek Reservoir, 26 January: Ring-billed Gull 400, Bonaparte's Gull 50.

Lake Marion, 26 January: Double-crested Cormorant 9, Bonaparte's Gull 50, Forster's Tern 8.

Lake Moultrie, 26 January: Common Loon 20, Red-throated Loon 2, Horned Grebe 1000, White Ibis 2, immature Bald Eagle 1, Ring-billed Gull 900, Bonaparte's Gull 120, Forster's Tern 20.

Lake Moultrie, 28 January: Herring Gull 40, Forster's Tern 150.

All of the lakes contained many of the commonly occurring waterfowl and shorebirds, frequently in impressive numbers. The water level on all of them seemed quite low.

I believe that the lakes in the upper piedmont of South Carolina are, on the average, far less productive than the ones listed above. The three most productive and accessible lakes are Greenwood, Murray, and Moultrie. Murray and Moultrie have the advantage of being quite close to large population centers.

There are three good observation points on Lake Murray. First of these is the dam and park on SC 6 a few miles N of Lexington. To reach the other two, drive about 10 miles W of Lexington on US 378 to Shore Road; turn right at the "Lake Murray park and ramp" sign and go about 4 miles to the boat landing and small park. The third and most productive lookout is reached by driving about 2 miles farther down Shore Road, to the very end of the peninsula. Stop right before you get to the "private road" sign.

I know of three good spots on Lake Moultrie. The first of these is the Pinopolis Dam, easily reached off US 52 about 6 miles NE of Moncks Corner. To reach the second, drive about 2 miles NW of Moncks Corner on SC 6 to the road leading to the village of Pinopolis. Turn right and go about 3 miles to the end of the road. Walk to the end of the peninsula. The third and most interesting site is reached by driving about 7.5 miles NW of Moncks Corner on SC 6 to a small road on the right that leads immediately

to a large asphalt parking lot and a boat ramp. Park as far from Route 6 as you can and look for an old dirt road leading into the woods. Walk about a half mile down to the lake overview. If the water level is low you will find a lovely beach and many acres of mudflats.

Of all the lakes in South Carolina, the most accessible, compact, and yet consistently productive is Lake Greenwood, although you will not find here the great flocks of Horned Grebes or waterfowl sometimes found on the bigger lakes. Greenwood State Park, on the southwestern side of the lake just off SC 34 and 702, has several excellent and easily found observation points.

The birder's bane on all of the inland lakes is poor visibility, i.e., heat distortion or "shimmer," caused by a significant difference between the water and air temperatures. It is worst during sudden warm spells in winter or cold spells in spring and fall. The best time to visit the lakes is late afternoon on an overcast day after a long period of uniform temperatures. On the bigger lakes, if you can see any distortion at all in binoculars, then visibility is poor and only a small fraction of the lake's surface will be visible to you. Because it is relatively narrow, Lake Greenwood is less susceptible to this problem.—BOB LEWIS, 503 N. Greensboro, No. 2, Carrboro, NC 27510.

CBC Members in Print

The December 1979 *Wilson Bulletin* (91:495-511) features an article by PAUL W. SYKES JR. on the "Status of the Everglade Kite in Florida—1968-1978." A color plate of young birds in the nest adds much interest to the encouraging statistics. Sykes found that the Florida population has risen from a low of 65 birds censused in 1972 to a high of 267 in 1978. This represents the greatest number of kites in the state since the 1920s or 1930s. Although the kite population appears to have adjusted to the loss of habitat since the completion of the first major drainage works in the Everglades, there is a need for the development of managed habitat units that will provide sufficient resources to support the population through critical periods of low water.

In recent years a number of reports on pelagic birds have appeared in *Chat*. These ranged from one-sentence Briefs for the Files to major papers. This rapidly expanding body of data has been summarized by DAVID S. LEE and JOHN BOOTH JR. in "Seasonal distribution of offshore and pelagic birds in North Carolina waters" (*Am. Birds* 33:715-721). The paper contains a very helpful bar graph that shows when 30 species can be expected in our offshore waters and gives some idea of their relative abundance.

The Ultimate List

Do you keep a life list of the birds you have seen? A state list? A county list? A yard list? An annual list? James A. Tucker, editor of *Birding*, offers us the ultimate list, a "Combination List and Checklist for Birds of North America." Now you can keep all your lists in one sturdy white plastic seven-ring binder: the life list, including space for date and place species was first seen; seasonal status data; 24 columns for year lists; columns for the Canadian provinces, the 48 contiguous United States, and Alaska; and nine columns without printed headings for your own areas of special interest. The binder is large enough to permit insertion of additional sheets for birds seen on other continents, nesting records, or miscellaneous notes. The North American species are listed in phylogenetic order according to the common names given in the 1975 *ABA Checklist*. There is a handy index. The type is easy to read; every fourth horizontal rule is bold, and, where appropriate, vertical columns are alternately shaded and unshaded. Copies are available from ABA Sales, Box 4335, Austin, Texas 78765. The price is \$13.50 for American Birding Association members, \$15.00 for nonmembers.—EFP

General Field Notes

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King Eider on Saluda River at Columbia, S.C.

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On 2 January 1979 at about 1630, I noticed a large duck on a rock in the Saluda River about 200 yards away from my home at Rising Hopes in West Columbia, S.C. Rising Hopes overlooks the river at a point just north of its confluence with the Broad to form the Congaree, about $\frac{1}{4}$ mile upstream from the Hampton Street bridge. I realized immediately that the bird was not native to the area, as I have hunted waterfowl in South Carolina for 25 years and in other places in the United States.

With the naked eye, I could see that the bird was a large, heavy-bodied duck with wing patches, an orange frontal shield, a knobbed beak, white foreparts, and a dark back and rear. When first observed, the bird faced to my left, giving me a lateral view. I then examined it with 7X binoculars and called my wife Mary, my brother-in-law Carl Roberts, and my mother-in-law Mrs. Hamilton Roberts. All observers had excellent views of the bird as it turned on the rock several times and spread its wings; the white foreparts and wing patches, the dark coloration of the rear, and especially the very bright orange frontal shield, were readily visible. With binoculars, the top and back of the head appeared off-white to pale gray; the feet and legs were orange.

The bird's size and shape suggested strongly that it was a sea duck, and probably an eider. Examination of the appropriate plates and descriptions in the Peterson field guide confirmed this belief, and furthermore indicated clearly that the bird was an adult male King Eider (*Somateria spectabilis*). I called the Columbia Audubon Office and, while the bird was still in view, described it to Kay Sisson, who concurred in my identification.

We watched the bird for about 1½ hours, during which time it shifted position continually and spread its wings. The eider then flew to our side of the river and slightly downstream. Roberts and I went outside and observed the bird with 20X binoculars; there was no question of its identity. I watched it as it flew low over the water for about 100 yards before it ceased active flight and sailed out of view, apparently landing on or near the shore. Attempts to relocate the eider did not succeed; it may have been frightened by two fishermen who had just come into the area. The search was continued the next two days, but to no avail.

There are only two previous records of the King Eider in South Carolina (South Carolina Bird Life, 1970, p. 140-141). Burton obtained two immature females from the jetties in Charleston Harbor on 26 and 29 December 1936; both specimens are in the collection of the Charleston Museum. J.E. Mosimann and T.M. Uzzell Jr. observed an adult male off the Isle of Palms on 2 January 1947. The Columbia bird is the first island record for the state.

First South Carolina Sight Record of the Lesser Black-backed Gull

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5 March 1979

On 16 September 1976, I observed a single adult Lesser Black-backed Gull (*Larus fuscus*) on a sanitary landfill near Spruill Avenue, Charleston Heights, Charleston County, S.C. The bird was feeding in association with Laughing Gulls (*L. atricilla*), Ring-billed Gulls (*L. delawarensis*), and Herring Gulls (*L. argentatus*). I approached to within 30 m of the bird and observed it in good light with 7 x 35 wide-angle binoculars from 1530 to 1600 hours. It was slightly smaller than a Herring Gull and had a sooty-black back similar to that of an adult Great Black-backed Gull (*L. marinus*). The bill and legs were bright yellow, and there was red spot on the upper mandible. When the gull flew, it dangled its legs downward revealing their bright yellow color.

I left the landfill and returned at 1635 hours prepared to collect the bird. However, as I stepped onto the site, it and all of the other birds left and did not return. On 17 September, Pete Laurie and I independently searched all landfills in the Charleston area (see Chat 37:57-62 for details of geographic locations), but we failed to find the bird again.

This observation is the first record of the Lesser Black-backed for South Carolina. Unfortunately, the photographs I took of the bird were inadequate for confirmation of the sight record (S.A. Gauthreaux Jr. and H.E. LeGrand Jr., pers. comm.). Consequently, this species must be placed on the hypothetical list until additional records are available.

The appearance of this species in South Carolina is not unexpected as it has been recorded regularly in winter since 1975 from North Carolina (Am. Birds 31:163-166) and Florida (Am. Birds 31:166-169). I predict that it will become a regular but rare winter visitor in the future, just as the Great Black-backed Gull has become since the 1950s (South Carolina Bird Life, 1970, p. 604).

I am grateful to Allen Knox for a discussion of the races of Lesser Black-backed Gulls and for access to the University of Aberdeen museum. This observation was made incidental to field work on the bird-aircraft collision hazard supported by a grant from the U.S. Department of the Interior with funds provided by the U.S. Air Force, BASH programs, Tyndall Air Force Base, Florida. This note was prepared while I held a sabbatical from The Citadel and was a Research Fellow with the Department of Zoology, University of Aberdeen, Aberdeen, Scotland.

Owl Census at Columbia, S.C.

BRIAN ELLIOT CASSIE

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10 February 1979

During the early months of 1978, Charles Whitney and I conducted an informal survey of owl populations within the area covered annually during the Columbia, S.C., Christmas Bird Count. Using taped calls and hooted imitations to attract the birds, we worked approximately 30% of the count circle during our survey. Our searching was done for the most part along quiet back roads and woods trails, away from residential areas, and was always begun shortly after dark on calm evenings. The results of our field work are shown in Table 1.

TABLE 1. Results of an owl census made in the vicinity of Columbia, S.C., January through March 1978. Habitat abbreviations: F for farmland, fields, and adjacent woodland margins, H for hardwoods, P for mature pinewoods, YP for young pine-woods, M for mixed pine/hardwoods, and R for residential neighborhoods.

Date	Hours Afield	Owls Total/Seen	Great- horned	Barred	Screech	Short- eared	Habitat
28 Jan.	2.25	13/3	—	5	7	1	F,H,M
29 Jan.	4.0	17/3	—	12	5	—	H,M
2 Feb.	.25	4/1	1	2	1	—	M,P,
24 Feb.	2.75	27/4	—	24	3	—	F,H,M
6 Mar.	2.0	13/1	2	1	10	—	M,P,R
10 Mar.	2.25	22/6	2	1	19	—	M,Y,P
21 Mar.	3.5	15/2	2	2	11	—	M,R
22 Mar.	3.0	15/3	—	12	3	—	F,M,P
29 Mar.	.25	3/1	—	3	—	—	H
Totals	20.25	129/24	7	62	59	1	

During the course of this study, we gradually became familiar with the habitat requirements of the commoner owls in the Columbia area. The Screech Owl (*Otus asio*) was found to occur abundantly in extensive tracts of young pine, such as are present on parts of Fort Jackson Military Reservation. We also found this bird to be quite common in residential woodlots and in mixed woods along the edge of farmland. In riverbottom woods and in dark, swampy situations, the Barred Owl (*Strix varia*) populations are very large indeed, and in these habitats we found this highly vociferous and animated bird to be the only owl species present. Barred Owls were also noted commonly in drier areas of mature pines. In regard to the Great Horned Owl (*Bubo virginianus*), we expected to record this bird in a variety of habitats; however, it could only be located in the vicinity of small lakes or ponds with adjacent stands of tall pines.

The range of responses of owls to recorded owl calls was considerable. The Barn Owl (*Tyto alba*) and Great Horned Owl made no response that we could discern. Screech Owls were generally cooperative and answered the recordings well. Most surprising was the Barred Owl, which not only readily responded to its own calls but also seemed to answer the calls of the Great Horned Owl and Screech Owl on several occasions.

Of six Screech Owls seen well enough to distinguish color, five were gray and one was reddish-brown. The reddish-brown bird was seen in company with one of the gray-phase owls, the two apparently a mated pair.

Audubon's Warbler: Second North Carolina Record

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At 1645 on 3 February 1980 the alarm notes of a Cardinal (*Cardinalis cardinalis*) attracted a flock of small passerines, including two Yellow-rumped Warblers (*Dendroica coronata*), to the area of my feeding station in the Glendale Heights section of Durham, N.C. My wife Lois remarked upon the brilliant plumage of one of the warblers. Examining the bird with 7 x 50 binoculars at 20 m, we identified it as an

"Audubon's" Yellow-rumped Warbler (*D. c. auduboni*). The Owen McConnell family arrived within 10 minutes to confirm the sighting, but the bird was not seen again that evening. At 0800 the next morning I located the bird and observed it to be occupying a feeding area along a section of Ellerbee Creek, which adjoins my property. Jim McConnell was unable to find the bird on 5 February, but he and I located it again on 6 February and every subsequent day that week, during which time I photographed the bird and it was seen by many observers. The week of 18 February brought temperatures of 70° F, an increase in the numbers of Yellow-rumped (Myrtle) Warblers, and the departure of the Audubon's Warbler.

As a result of these observations, I can describe the Audubon's plumage as follows: head, gray with split eye ring and yellow crown patch; back, gray with black streaks, two white wing bars, and yellow rump; tail, black with conspicuous white spots above, and typical "thumb prints" below; undersides, *throat brilliant yellow*, breast white with heavy black streaking and yellow before the bend of the wing, white under-tail coverts. This corresponds to winter adult male plumage described in Bent's *Life Histories of North American Wood Warblers* (U.S. Natl. Mus. Bull. 203, 1953). No evidence of hybridization (*D. c. coronata* X *D. c. auduboni*) was observable.

The distinct yellow throat easily separated this well-marked bird from the other Yellow-rumped Warblers. The more uniformly gray head and more extensive white in the tail also helped in identification. During four years residency in Colorado Springs, Colorado (1969-1973), I became very familiar with the western race and the problems of separating the two forms in winter plumage.

The bird consistently occupied a 2000-m stretch of Ellerbee Creek dominated by mixed hardwoods with stands of pines at either end. Two large maple trees, 50 m apart, were preferred feeding areas, and the bird was seldom absent from one or the other tree for more than 20 minutes. The two trees were also heavily used by Yellow-bellied Sapsuckers (*Sphyrapicus varius*). The bird vigorously defended the two trees from other Yellow-rumped Warblers, but was occasionally seen with them in other areas.

There are few records of this western race from the Southeast. Previous published sightings of Audubon's Warbler in the Carolinas are restricted to one bird (NCSM 3938) collected in Rocky Mount, N.C., on 28 February 1970 (Davis 1971, Auk 88:924) and two reported in Charleston, S.C., 24 February through 30 March (one until 13 April) 1974 (Am. Birds 28:627 and 790).

[NOTE: Normally, the CBC Records Committee does not consider sight records dealing with subspecific identification suitable for publication in *Chat*. However, an exception seems warranted when an Audubon's Warbler has been studied well, because this race, formerly considered a separate species, is readily distinguishable in the field and a specimen has been collected in the state.—DSL]

BRIEFS FOR THE FILES

HARRY E. LeGRAND JR.

(All dates 1979. Jordan Reservoir, in eastern Chatham County, N.C., is listed below as "JR" in order to save space.)

- COMMON LOON:** Douglas McNair observed three at Lake Murray, S.C., on 5 August, a rare inland summer report.
- RED-NECKED GREBE:** One was early and unusual at Lake Wylie, near Charlotte, N.C., on 27 October, as seen by Bill Brokaw.
- HORNED GREBE:** One seen by Tom Howard was very early on 6 September at Lake Surf, near Vass, N.C.
- CORY'S SHEARWATER:** Dave Lee reported 12 very late birds off Oregon Inlet, N.C., on 29 November.
- GREATER SHEARWATER:** One was seen by Bob Lewis from Bodie Island, N.C., on 6 October; the bird was flying N over the ocean approximately 2 miles from shore.
- AUDUBON'S SHEARWATER:** A total of 39 individuals was an excellent count on 9 November, as made by Dave Lee off Oregon Inlet.
- BLACK-CAPPED PETREL:** Mike Tove et al. reported eight birds on 19 August, and seven birds on 2 September, on pelagic trips off Hatteras Inlet, N.C.
- WHITE-TAILED TROPICBIRD:** Single individuals were seen on pelagic trips off Hatteras Inlet on 2 September (Mike Tove et al.) and off Beaufort Inlet, N.C. on 3 September (John Fussell).
- WHITE PELICAN:** One was seen at Morehead City, N.C., in mid-August, as reported by John Fussell. A group of four were observed in flight at Oregon Inlet on 19 September by Malcolm Simons, Jim Pullman, and Elizabeth Pullman. On 23 October two groups of four birds each were seen migrating WSW in coastal Carteret County, N.C., by Fentress Munden et al.
- BROWN PELICAN:** One of the few inland records for the Carolinas was that of an immature found on the roof of a house in Waynesville, N.C., on 6 August (fide Dave Lee).
- GREAT CORMORANT:** An immature was observed by Stanley and Mary Alford and by Pat and Renee Probst at Hunting Beach State Park, S.C., from 29 October to 3 November. Another immature was noted by Pat and Jim Culbertson at North Pond on Pea Island, N.C., on 5 November.
- DOUBLE-CRESTED CORMORANT:** Single birds were seen inland at Lake Marion, S.C., on 23 August (Douglas McNair) and at Seven Lakes, Moore County, N.C., on 30 October (Dick Thomas). One to two were seen from 28 September to 5 October at JR by Bob Lewis et al.
- ANHINGA:** P.J. Crutchfield reported two individuals at an impoundment in north-eastern Pamlico County, N.C., on 4 October.
- MAGNIFICENT FRIGATEBIRD:** One was noted at Mount Pleasant, S.C., on 23 September by Gardner Miller et al.
- CATTLE EGRET:** Rare fall sightings for the piedmont were eight near Townville, S.C., on 26 August, with seven there on 5 September (Harry LeGrand). Bob Lewis reported one to three at JR from 4 to 23 November, very late dates for this species inland.
- REDDISH EGRET:** A white-phase bird was noted by Dennis Forsythe at Moore's

Landing in Charleston County, S.C., on 13 October, and possibly the same bird was reported at the Savannah National Wildlife Refuge, S.C., on 4 November by Perry Nugent.

GREAT EGRET: The peak count at JR during the summer was an excellent 246 on 9 August, as noted by Bill and Margaret Wagner. Another was late there on 4 November (Bob Lewis).

SNOWY EGRET: One was seen by Douglas McNair at Pee Dee National Wildlife Refuge, Anson County, N.C., on 16 August. As many as three were reported by many observers at JR from July to 26 August.

LOUISIANA HERON: Bob Lewis et al. observed one to three at JR from 22 July to 25 August.

BLACK-CROWNED NIGHT-HERON: A rare inland summer record was that of one seen by many observers at JR on 4 August.

AMERICAN BITTERN: Most unusual in summer was an individual observed at JR by many birders on 12 August.

WOOD STORK: Ken Knapp noted 12 at a pond near Sunset Beach, Brunswick County, N.C., on 24 August. This area is the only place in the state where the species has been seen regularly in recent years.

GLOSSY IBIS: Very rare inland were five birds at JR from 11 to 25 August (Marc Eisdorfer, Bob Lewis, et al.); five were also present there in mid-October, as noted by Bob Lewis.

WHITE IBIS: Three immatures were seen near Cane Creek Park, Union County, N.C., on 10 August by Bill Scott, and a maximum of 10 were noted at JR between 18 August and 15 September (Bob Lewis et al.). Ten birds at Pea Island on 10 November (Dave Lee) were a good count for that refuge.

CANADA GOOSE: Bob Lewis saw a flock of 150 in flight over JR on 3 November; this is a good count for the central part of North Carolina.

BRANT: John Fussell et al. saw 15 near Morgan Island in the Cape Lookout area on 4 November. This North Carolina locality is slightly to the south of the normal winter range.

SNOW GOOSE: Noteworthy North Carolina sightings were single white-phase birds near Fort Fisher on 20 October (Ricky Davis) and at Lake Surf on 4 and 12 November (Kevin Mason). David Barnes saw two blue-phase geese at Davis, Carteret County, N.C., on 4 November.

FULVOUS WHISTLING-DUCK: Eight were noted by Perry and Chris Nugent at Savannah N.W.R. on 4 November, and another was seen at Pea Island on 24 November by Claudia Wilds.

PINTAIL: A good inland count was the 60 birds noted by Bob Lewis at JR on 29 November.

EUROPEAN WIGEON: One was a good find made by Pat and Jim Culbertson at Pea Island on 5 November.

REDHEAD: Single males out of season were noted near Bunn, Franklin County, N.C., on 27 August (Eloise Potter) and all summer and fall at Fort Macon, Carteret County, N.C. (John Fussell).

RING-NECKED DUCK: Early reports were five seen at Lake Surf on 28 September by Tom Howard, and one noted by Eloise Potter near Bunn on 20 September.

GREATER SCAUP: Bob Lewis observed a female at JR on 19 November.

LESSER SCAUP: The peak count at JR was 260 on 11 November, as reported by Bob Lewis.

- WHITE-WINGED SCOTER:** A male seen by Ricky Davis at Carolina Beach, N.C., on 31 August was extremely early. A rare inland report was of two birds seen on Lake Wylie near Charlotte on 3 November by Bill Brokaw.
- SURF SCOTER:** Very rare inland were three individuals noted by Mike Tove et al. on Beaver Lake, near Asheville, N.C., on 18 November. Two were still there on 26 November, as reported by Dan McElroy.
- BLACK VULTURE:** Mike Tove observed two migrants along the Blue Ridge Parkway at Graveyard Fields, Haywood County, N.C., on 27 October. This species is seldom seen in the mountains of that state.
- MISSISSIPPI KITE:** An immature was carefully studied at JR on 20 September by Bill and Margaret Wagner and Johnnie Payne. Bill Brokaw noted an immature near Huntington Beach State Park on 17 October, and two immatures the next day at Oak Island in Brunswick County, N.C. Douglas McNair observed two adults on 16 August along the Pee Dee River in southeastern Anson County, N.C.; the species might be breeding at this locality.
- GOSHAWK:** An immature was seen by Mike Tove at the Graveyard Fields along the Blue Ridge Parkway on 27 October.
- ROUGH-LEGGED HAWK:** One was carefully studied by Gail Whitehurst as it flew over Raleigh, N.C., on the very early date of 1 October.
- GOLDEN EAGLE:** An immature was noted by P.J. Crutchfield on 17 August at Hanging Rock Mountain in Watauga County, N.C. An adult was notable near Lake Cammack in Alamance County, N.C., on 24 September (Allen Bryan).
- BALD EAGLE:** Noteworthy reports were single adults at Lake James in Burke County, N.C., on 18 August (Patricia Craig, Frances Bumgarner), near Fayetteville, N.C., in mid-September (fide P.J. Crutchfield), and near JR on 14 October (Steve Graves).
- OSPREY:** Two were late on 25 November in southern Chatham County, N.C., as seen by P.J. Crutchfield.
- PEREGRINE FALCON:** An excellent coastal migration occurred this fall, with several parties reporting 15 to 20 birds per day along the Outer Banks of North Carolina on 7 and 8 October. Inland migrants, one in each instance, were noted at Clemson, S.C., on 11 October (Harry LeGrand); at JR on 22 and 24 September (Ken Knapp, Bill Wagner, et al.) and again on 11 October (Bob Lewis); at the Graveyard Fields along the Blue Ridge Parkway on 29 September (Mike Tove); near Blowing Rock, N.C., on 1 October (Tom Haggerty); at Grandfather Mountain, N.C., on 8 October (Haggerty); and at Raleigh on 5 October (Gail Whitehurst).
- MERLIN:** Inland birds were seen at Clemson on 15 October by Sid Gauthreaux and Harry LeGrand as well as at JR on 8 October (Bob Lewis) and 25 November (James Coman, Steve Graves, Bill Wagner).
- KING RAIL:** A rare inland sighting was of one flushed at JR by Bob Lewis on 16 November.
- SORA:** One seen at JR by Jim and Owen McConnell on 12 August was quite early.
- BLACK RAIL:** Dick Brown found a bird killed at a TV tower near Charlotte on 21 September.
- COMMON GALLINULE:** A rare piedmont sighting was that of an individual noted at JR on 12 November by Fran and Wayne Irvin.
- AMERICAN AVOCET:** One was highly noteworthy inland at Lake Murray, S.C., on 7 August, fide Evelyn Dabbs. Rare for Carteret County were as many as three at Brant Island from 23 September to 21 October, as noted by John Fussell, and

- one at North River marsh on 9 and 10 November (JoAnne Powell).
- PIPING PLOVER:** Casual inland was one observed by Dave Lee at Beaverdam Reservoir, in northern Wake County, N.C., on 30 August.
- AMERICAN GOLDEN PLOVER:** Bob Lewis et al. had excellent numbers this fall at JR, between 25 August and 4 November; notable totals were six on 19 September, 15 on 25 October, and 41 on 3 November. Other reports of interest were singles at Clemson from 9 to 19 September (Harry LeGrand) and at Pea Island on the late dates of 24 and 25 November (Tom Haggerty).
- BLACK-BELLIED PLOVER:** Noteworthy inland were one at JR on 12 August (Angelo Capparella and Stanley Alford) and five there on 19 September, with at least one lingering until 19 November (Bob Lewis).
- UPLAND SANDPIPER:** Douglas McNair counted 58 individuals at Shaw Air Force Base near Sumter, S.C., on 22 August, an outstanding Carolina total.
- GREATER YELLOWLEGS:** Late were six birds at JR on 23 November, as seen by Bill and Margaret Wagner, and one noted by P.J. Crutchfield near Fayetteville on 30 November.
- LESSER YELLOWLEGS:** A count of 11 on 23 November at JR was excellent for such a late date (Bill and Margaret Wagner).
- WILLET:** Singles at JR on 25 and 26 August (Bob Lewis, Ken Knapp) and at Lake Marion on 1 September (Douglas McNair) were rare inland sightings.
- RUDDY TURNSTONE:** One was noted by Harry LeGrand at Clemson from 13 to 17 September, another was seen by Kevin Mason and P.J. Crutchfield at Lake Surf on 27 October, and one was seen by many birders at JR on 12 August. Four at JR on 19 September were especially exciting, and one remained to 25 September (Bob Lewis).
- WILSON'S PHALAROPE:** Bob Lewis et al. reported several from JR this fall: two on 5 August, with one until 14 August; one on 12 September; and another from 24 October to 2 November. Unusual numbers were also found at Brant Island, next to Fort Macon, with 8 to 12 there from 26 August to 9 September (John Fussell).
- NORTHERN PHALAROPE:** One seen on the salt flats at Pea Island by Bob Lewis was noteworthy on 6 October.
- SHORT-BILLED DOWITCHER:** Tom Haggerty saw and heard three in central McDowell County, N.C., on 24 August, and Harry LeGrand noted one near Townville, S.C., on 26 August. Birds were found at JR from 4 August to 6 September by many observers, with 13 individuals each on 12 August and 25 August.
- LONG-BILLED DOWITCHER:** Jackson Abbott noted 260 at Bodie Island on 22 August, and a very rare inland bird was at JR on 24 October (Bob Lewis).
- SANDERLING:** One was observed by P.J. Crutchfield and M.E. Whitfield near Fayetteville on 31 August.
- WHITE-RUMPED SANDPIPER:** Rare inland in fall were three seen by Douglas McNair at Santee N.W.R., S.C., on 23 August. Another seen by John Fussell et al. at Brant Island from 11 to 22 November was very late.
- BAIRD'S SANDPIPER:** Two noted at Bodie Island on 22 August by Jackson Abbott were the only ones reported during the fall.
- PECTORAL SANDPIPER:** One seen by Tom Haggerty at Boone, N.C., on 23 September was a rare mountain record. Another was late at JR on 18 November (Jim Pullman).
- DUNLIN:** Bill and Margaret Wagner counted nine at JR on 22 November, a good

- inland total. Two were seen at Winston-Salem, N.C., on 11 October by Ramona Snively, Bob Witherington, et al.; and another was noted by Jim Mulholland near Raleigh from 25 to 27 October.
- CURLEW SANDPIPER:** Davis Finch et al. observed one in juvenal plumage at Oregon Inlet on 7 October; and John Fussell, Bill Moffitt, et al. noted another in partial breeding plumage at Brant Island on 26 and 28 August.
- STILT SANDPIPER:** Bob Lewis saw individuals at JR from 3 to 26 August, with eight there on 25 August. Another was at JR on the late date of 25 October (Bob Lewis). Douglas McNair noted three at Santee refuge on 23 August.
- BUFF-BREASTED SANDPIPER:** One was noted on the coast at Pea Island on 21 August by Jackson Abbott. Harry LeGrand found single birds near Pendleton, S.C., on 8 September, at Clemson from 9 to 17 September, and another at Clemson on 23 September.
- POMARINE JAEGER:** John Fussell observed one flying directly over him at Cape Lookout point, N.C., on 25 September, and Dave Lee had an excellent count of 35 off Oregon Inlet on 25 November.
- GLAUCOUS GULL:** An extremely early individual, in second-year plumage, was found by Jackson Abbott at Hatteras on 19 August.
- LESSER BLACK-BACKED GULL:** One was rare and quite early in Pamlico Sound near Lowland, N.C., on 4 October, as seen by P.J. Crutchfield et al.
- HERRING GULL:** A first-year bird was unusually early on 18 August at Kerr Scott Reservoir in Wilkes County, N.C. (Tom Haggerty), and 11 provided a good count for JR on 12 November (Bob Lewis).
- LAUGHING GULL:** Three were rare at Clemson on 14 September, as noted by Harry LeGrand and Sid Gauthreaux. Douglas McNair observed at least 85 on 1 September at Lakes Marion and Moultrie, S.C.
- BLACK-LEGGED KITTIWAKE:** Dave Lee collected an immature off Oregon Inlet on 23 October.
- FORSTER'S TERN:** Excellent inland counts were 42 seen at Lake Marion on 23 August and 65 on Lakes Marion and Moultrie on 1 September, as reported by Douglas McNair.
- COMMON TERN:** John Fussell counted 3928 birds coming to roost at Bird Shoal near Beaufort, N.C., on 28 September.
- ARCTIC TERN:** Three were observed on a pelagic trip off Hatteras inlet on 2 September, as noted by Mike Tove, Paul DuMont, et al.
- ROSEATE TERN:** Two were seen at Huntington Beach State Park on 11 August by Dennis Abbott and Perry Nugent, and another was seen by Jackson Abbott at the harbor in Hatteras on 19 August.
- SOOTY TERN:** A good offshore count was nine seen on a trip out of Hatteras Inlet on 2 September, fide Mike Tove.
- LEAST TERN:** Inland reports, not associated with Hurricane David, were one at Lake Marion on 23 August (Douglas McNair) and two near Townville at Lake Hartwell on 26 August (Harry LeGrand). Another was quite late at Cape Lookout on 27 September, as seen by John Fussell.
- CASPIAN TERN:** Several were noted at Clemson from 19 September to 2 October (Harry LeGrand) and at JR on 10 and 22 September (Bob Lewis). Perhaps a record inland count was the 60 seen by Douglas McNair at Lakes Marion and Moultrie on 1 September.
- BLACK TERN:** Tom Haggerty saw one from 11 to 14 August at Trout Lake, near Blowing Rock, N.C., a notable mountain record. As many as 12 were at JR in

- mid-August, according to many observers.
- RAZORBILL:** Rare and early was an individual seen at Cape Lookout on 9 November by Skip Prange and Chip Davis.
- GOUND DOVE:** Far out of range was a bird seen by Bob Lewis, R.J. Hader, Ken Knapp, and Allen Bryan at JR on 27 October.
- YELLOW-BILLED CUCKOO:** John Fussell et al. estimated from 150 to 500 at Cape Lookout on 14 October.
- LONG-EARED OWL:** An injured bird was found at Columbia, S.C., on 20 October by Gary Tomlin and Gray Taylor, one of the few records for the Carolinas in the decade.
- SHORT-EARED OWL:** Douglas McNair studied an individual on 12 August at a plowed field 6 miles SE of Columbia; this record is more than 2 months earlier than the species would be expected in the Carolinas.
- WHIP-POOR-WILL:** Jay Carter saw one and heard two birds on 7 August in Bladen County, N.C., between White Oak and Garland. This possibly represents an extension of the known breeding range.
- RED-COCKADED WOODPECKER:** A rare report for Robeson County, N.C., was that of a colony found near Lumberton on 9 August by Jay Carter.
- GRAY KINGBIRD:** A very rare Outer Banks report was of one seen and photographed at the Cape Hatteras lighthouse on 6 October, as noted by Davis Finch et al.
- WESTERN KINGBIRD:** Eight individuals were reported from four coastal North Carolina counties on dates from 9 September to 16 November.
- SCISSOR-TAILED FLYCATCHER:** A highly noteworthy record was of an individual seen in flight at JR on 13 May, as reported by Ken Knapp and Clark Olson.
- OLIVE-SIDED FLYCATCHER:** Tom Haggerty saw one near Blowing Rock on 28 August and another on 8 September at Linville Falls, N.C.
- HORNED LARK:** Three adults and four young were found at Shaw Air Force Base, near Sumter, on 4 August by Douglas McNair. This is at the eastern edge of the known range in the South Carolina coastal plain.
- BANK SWALLOW:** An excellent count was 500 made by Douglas McNair at Santee N.W.R. on 23 August. One bird was very late at Savannah N.W.R. on 4 November (Perry Nugent).
- PURPLE MARTIN:** Ricky Davis observed a female at Pea Island on the exceptionally late date of 18 November. It was with Barn Swallows, was larger than the Barns, and had a grayish breast and shallowly forked tail.
- FISH CROW:** Good counts for the upper coastal plain were 1000+ at Columbia, S.C., on 12 August and 165 at Hamlet, N.C., on 23 November, as noted by Douglas McNair. Numbers of this species have greatly increased in the lower piedmont and upper coastal plain over the past 10 years.
- BEWICK'S WREN:** A rare piedmont sighting was that of one noted by Steve Graves et al. near Chapel Hill, N.C., on 7 October.
- LONG-BILLED MARSH WREN:** One was noteworthy at Boone, N.C., on 16 October, as seen by Tom Haggerty.
- SHORT-BILLED MARSH WREN:** One was rare near Burlington, N.C., as noted by Allen Bryan on 29 September.
- WOOD THRUSH:** Libba Watson reported that an individual lingered at McCain, Hoke County, N.C., through 29 November.
- LOGGERHEAD SHRIKE:** John Fussell et al. noted a rare migrant at Cape Lookout

from 25 September to 14 October.

RED-EYED VIREO: One seen by Ricky Davis was late at Fort Fisher on 4 November.

PHILADELPHIA VIREO: Single birds were seen in North Carolina at Pinehurst on 2 September (Marion Jones), at JR on 16 September (Ken Knapp), near Chapel Hill on 20 September (Johnnie Payne), and at Fort Fisher on 11 October (Ricky Davis).

SWAINSON'S WARBLER: Jay Carter found a bird killed at the WECT-TV tower in Bladen County, N.C., on 28 September.

GOLDEN-WINGED WARBLER: Rare coastal reports were individuals seen on 12 August at Mount Pleasant, S.C. (Bill Winfield, Ed and Sandy Conradi) and at Pea Island on 6 October (Herbert Wilson, Bruce Lord).

BLUE-WINGED WARBLER: An early migrant was seen by Carol Hamilton at Chapel Hill on 14 August.

TENNESSEE WARBLER: One was rather early at Durham, N.C., on 23 August (Jim McConnell). Rare on the coast were one at Huntington Beach State Park on 7 October (Pat Probst) and two at Emerald Isle, Carteret County, N.C., on 9 October (Eloise Potter, Helenhill Dove).

NASHVILLE WARBLER: Noteworthy near the coast were singles at Sullivan's Island, S.C., on 16 September (Perry Nugent), near Lowland, N.C., on 5 October (P.J. Crutchfield), at Isle of Palms, S.C., on 6 October (Bobbin Huff), and at Moore's Landing northeast of Charleston on 14 October (Perry Nugent, Gardner Miller).

YELLOW WARBLER: Perry Nugent noted excellent numbers in the Charleston area this fall, with 500 at Sullivan's Island on 8 September, 200 there on 15 September, and 1000 at Mount Pleasant on 23 September. One feeding on broken sunflower seeds at a feeder near Charleston was noted from November until 2 December by Bruce Krucke.

CAPE MAY WARBLER: Jim Pullman observed one feeding at sapsucker holes in his yard near Durham in November, and the bird remained until 26 November.

BLACK-THROATED BLUE WARBLER: One seen by Libba Watson was early at McCain, N.C., on 3 September.

YELLOW-RUMPED WARBLER: Shuford Peeler observed an early individual at Charlotte on 17 September.

CERULEAN WARBLER: The peak of the migration of this species in the Carolinas is evident by sightings at Chapel Hill on 14 August by Carol Hamilton and on 23 August by Marc Eisdorfer.

BLACKBURNIAN WARBLER: One seen at Emerald Isle, N.C., on 6 October by Eloise Potter and Helenhill Dove was a rare coastal report.

CHESTNUT-SIDED WARBLER: Another rare coastal sighting was an individual noted at Folly Beach, S.C., on 6 October by Pete Laurie.

CONNECTICUT WARBLER: Single birds were seen by Harry LeGrand, Bob Lewis, et al. near Buxton, N.C., on 7 October and at Chapel Hill on 13 October by Steve and Maurice Graves.

WILSON'S WARBLER: Individuals were noted in North Carolina at JR on 26 August (Ken Knapp) and 20 September (Bill Wagner), near Burlington on 26 September (Allen Bryan), near Buxton on 7 October (Harry LeGrand), and near Charlotte on 11 October (Dick Brown).

BOBOLINK: Two were early at Pee Dee N.W.R., N.C., on 16 August, as seen by Douglas McNair.

- YELLOW-HEADED BLACKBIRD:** Five reports for the season were an excellent number for the Carolinas. Single birds were noted at Hilton Head Island, S.C., on 23-24 July (Virginia Scheetz), at JR on 30 September (Bill Wagner et al.), at Cape Hatteras on 6 October (Davis Finch et al.), at Savannah refuge on 4 November (Perry Nugent), and near Rocky Mount, N.C., on 28 November (Tom Haggerty).
- BREWER'S BLACKBIRD:** A pair was extremely early at a feeder at Hilton Head Island on 10 August, as seen by Virginia Scheetz.
- DICKCISSEL:** A very rare mountain record was that of one seen near Boone on 12 October by Tom Haggerty. Ricky Davis observed two at Fort Fisher on 6 October, and a different individual there on 11 October.
- EVENING GROSBEAK:** Allen Bryan saw two at Beech Mountain, Avery County, N.C., on the unusual date of 11 August.
- HOUSE FINCH:** A second nesting record for South Carolina was indicated by the observation of three young in a Greenville yard during the summer (Mrs. Robert Ballard). One was early at Clemson on 13 September (Harry LeGrand), and rare for the Sandhills were singles at Southern Pines, N.C., on 29 October (Charlotte Gantz) and at Hoffman, N.C., on 21 November (Douglas McNair). A flock of 45 seen in a field near Burlington on 24 November by Allen Bryan was notable.
- SAVANNAH SPARROW:** One was early at Lake Surf on 5 September, as noted by Jay Carter.
- GRASSHOPPER SPARROW:** Douglas McNair observed a juvenile and an adult at Shaw A.F.B. near Sumter on 4 August, 10 pairs plus a juvenile at nearby McIntire base on 11 August, and an adult at Columbia on 12 August.
- LE CONTE'S SPARROW:** One seen well at Fort Fisher on 23 November by Mark Oberle was a very rare record for North Carolina.
- SHARP-TAILED SPARROW:** A noteworthy inland sighting was made by Jim Mulholland and R.J. Hader near Raleigh on 8 October.
- LARK SPARROW:** Six birds were noted along the coast of North Carolina (Dare and Carteret Counties) between 16 and 28 September by many observers. Very rare inland reports of single birds were made at Durham on 11 August (Jim and Owen McConnell), at Clemson on 30 September (Harry LeGrand, Patricia Gowaty), and at Raleigh on 15 October (Joshua Lee). Tom and Libbus Haggerty saw two late birds at Bodie Island on 25 November.
- BACHMAN'S SPARROW:** Jay Carter found a tower-killed bird in Bladen County on 19 September, and he saw another in northern Scotland County, N.C., on 26 October.
- CLAY-COLORED SPARROW:** An adult was very unusual at JR, as seen by Bob Lewis on 21 October and Ken Knapp on 28 October. Single birds along the coast, where the species is regular, were at Pea Island on 19 September (Jim and Elizabeth Pullman), at Fort Fisher on 8 October (Ricky Davis), and at Fort Macon on 12 October (Mike Tove).
- LINCOLN'S SPARROW:** Two were observed by Ricky Davis at Fort Fisher on 8 October; and single birds were noted at JR on 21 October (Bob Lewis) and on 28 October near Pendleton, S.C. (Harry LeGrand) and Winston-Salem (Kevin Hints).
- LAPLAND LONGSPUR:** Davis Finch noted a very early individual at Oregon Inlet on 4 October.
- TV TOWER KILL:** Mike Browne picked up approximately 1200 dead birds at a tower in Wake County, N.C., on 9 October. Among the 52 species were a Phil-

adelphia Vireo, a Connecticut Warbler, and a Lincoln's Sparrow.

HURRICANE DAVID: John O. Fussell III and Alice Allen-Grimes are summarizing records associated with this major tropical storm. Their paper is scheduled to appear in the Summer 1980 *Chat*.

BOOK REVIEWS

THE BACKYARD BIRD WATCHER

George H. Harrison. 1979. Simon and Schuster, New York. 200 photos in color and black-and-white; many drawings. 284 p. Price N.A.

This is primarily a book for the beginner or the more experienced observer who wants to make a true sanctuary of his own yard. There are detailed plans for landscaping, with specifics on plants attractive to birds as well as on construction and placement of feeders, birdhouses, and watering spots. There are helpful chapters on caring for injured birds (with a warning that "orphan" birds should often be left alone) and on bird photography. There is a list of "Organizations of Interest to Birders," which includes only two State bird clubs, as well as other lists of book publishers and of manufacturers of equipment. George Harrison is the son of the better-known Hal Harrison.—LCF

A FIELD GUIDE TO THE SEABIRDS OF BRITAIN AND THE WORLD

Gerald Tuck and Hermann Heinzel. 1978. Wm. Collins Son & Co., Ltd., Glasgow. 292 p. Illus. Index. \$8.00.

Not since Alexander's *Birds of the Ocean* (1954) has any volume attempted to cover all the world's seabirds. In view of the increased interest in oceanic birds, the book reviewed here is certainly needed. Over 280 species of seabirds are described, illustrated, and mapped to indicate their breeding and nonbreeding distributions. Additionally, a short, well-organized introduction provides information on seabird characteristics and feeding habits, pointers on identification of family groups, and some common-sense discussion on treatment of injured and oiled birds. The last 25 pages compose a section on the seabirds of the British Isles by John Parslow (thus the seemingly odd title).

The descriptions are not verbatim ones from already existing guides, and they may help bird students in further sorting out possibilities of species seen at sea. However, it is possible that the additional text that is needed to distinguish all the world species of a particular bird group may in fact further compound the problems beginners must face. The difficulty is further magnified by discussions of subspecies and the use of different common names for them. It is hoped that authors and journal editors will not regularly return to subspecific distinctions based on sight or photographic identifications. Many obvious field marks are omitted (e.g. neck ring of Bridled Tern) from the text, and the illustrations are generally inferior to those found in American field guides. Indiscriminant users could come up with some rather strange seabird identifications if they rely upon the Tuck and Heinzel guide as their only reference.

Perhaps the most valuable contribution this book could have made was its inclusion of distribution maps. These allow the reader to see at a glance the worldwide distributions of each seabird, including all the recorded nesting areas. The maps would have proven extremely useful and not simply of casual visual interest if they had been carefully researched. With the wealth of literature available on seabirds, there seems

little excuse for range maps that show Black Terns nesting south to western North Carolina, Sooty Terns nesting throughout Florida, or the complete absence of breeding Sandwich Terns—but solid occurrence of breeding Double-crested Cormorants—along the entire Atlantic coast. (This list could be extended considerably.) These distributions have been known, documented, and mapped for decades. Such blatant errors make me wonder how well the breeding ranges of less familiar species are depicted. The poor representation of distribution at sea is much easier to understand, but it has been some time since we have known that Cory's Shearwaters occur regularly off the North American coast and that Northern Gannets are found south of Cape Hatteras, contrary to what the maps indicate.

Nevertheless, this book does make an excellent supplementary reference source because there is much information here that is not readily available elsewhere. This useful and needed book should prove helpful to those who recognize its shortcomings.—DAVID S. LEE

AMPHIBIANS AND REPTILES OF THE CAROLINAS AND VIRGINIA

Bernard S. Martoff, William M. Palmer, Joseph R. Bailey, and Julian R. Harrison III. Photographs by Jack Dermid. 1980. The University of North Carolina Press, Chapel Hill. 264 p. Illus. with 196 color photographs, black-and-white range maps. Glossary. Index. \$14.95

Is it possible to become a bird watcher without also becoming at least casually acquainted with some of the reptiles and amphibians that inhabit the best birding places? Often we must listen closely to distinguish between the voice of the Gray Treefrog and the Red-bellied Woodpecker. Sometimes we need to identify the snake robbing a nest or the amphibian being consumed by a bird. Unfortunately, the critters we see in the field seldom look just like the illustrations in the field guides. Now we have a book that emphasizes the variations in the reptiles and amphibians found in the Carolinas and Virginia. The excellent photographs (often two or more of given species), up-to-date range maps, and well-written text make this book a joy to read whether you are looking up one particular species or spending an evening with the work. In addition to identification and range, the 159 species accounts include information on habitat preference, life history, food habits, and general biology. Technical terms are used when needed, but the text as a whole is blessedly free from jargon and confusing language. Although professional biologists will welcome this book, it is basically for the layman. A copy should be in every school and public library in the region covered as well as in the private collection of everyone who is interested in the natural history of the Carolinas and Virginia.—EFP

AUDUBON

John Chancellor. 1978. The Viking Press, New York. 16 color pages, many black-and-white illustrations. 224 p. Index. \$17.95.

In the foreword of *Audubon*, a biography lacking depth and literary merit, John Chancellor promises, "Readers will find that he becomes steadily more unattractive as the book progresses . . ." Chancellor does his best to make good his promise, but in the end it is Chancellor, not Audubon, who goes down the drain.

For example: On the last day of 1820 Audubon discovered after boarding a Mississippi steamboat that a portfolio of his watercolors was missing. He wrote, "The portfolio was nowhere to be found, and I recollected that I had brought it under my arm to the margin of the stream, and there left it to the care of my friend's servants, who, in the hurry of our departure, had neglected to take it aboard." Now, watch Chancellor distort the incident: "His spirits were low because he had lost somewhere in Natchez—perhaps in a brothel or gambling den—a portfolio containing some of the drawings

which he had done since leaving Cincinnati.” Having associated Audubon with prostitutes and gamblers, Chancellor drives the point home by inserting an illustration of Natchez bearing the caption, “The town of Natchez on the Mississippi, a rough place notorious for its gambling dens and whore-houses.”

In support of his nasty insinuation Chancellor cites no evidence, though certainly this axe-grinding author would document such charges if he could. I find other equally egregious examples of bias and doubtful scholarship, beginning on the first page of Chapter I where he suggests Audubon is sadistic, or at least heartless, to suffering birds. Unfortunately, dealing with all of Chancellor’s perversions of history would take more space than is available for a short review. Suffice it to say, anyone who feels compelled to read this book should be on guard.

Chancellor deals carelessly with facts. He states that Audubon visited Texas in the 1831-1834 period; Audubon didn’t visit Texas until 1837. He states that Audubon tried to prove that vultures find food by their sense of smell. Later, writing about the same experiment, he claims that Audubon tried to prove that vultures find food by their sense of sight. Mistakes in this book are as commonplace as House Sparrows, and without their charm.

Audubon is too costly, particularly when one considers that the text occupies only about two thirds of each page, and that many of the illustrations shed little light on the artist’s life and works. But then again, we should feel grateful for the blank paper and pointless pictures; to that extent we are spared exposure to Chancellor.—JAY SHULER

RARE AND ENDANGERED BIOTA OF FLORIDA: VOLUME TWO, BIRDS

Peter C.H. Pritchard, series editor; Herbert W. Kale II, editor of Volume Two. 1978. University Presses of Florida, 15 N.W. 15th Street, Gainesville, Fla. 32603. 121 p. Illus. 7½ x 10½ inches. Paperback. \$7.

Findings of the Florida Committee on Rare and Endangered Plants and Animals are being published in seven volumes. Volumes on mammals, birds, amphibians and reptiles, and fishes are now available; those dealing with plants, invertebrates, and recommendations and liaison are still in preparation.

The 74 avian taxonomic forms discussed in Volume Two are divided into seven categories: endangered (11), threatened (13), rare (11), species of special concern (29), status undetermined (5), recently extirpated (3), and recently extinct (2). The cover appropriately features a color photograph by Paul W. Sykes Jr. of the endangered Florida Everglade Kite. Introductory material provides general information on Florida birdlife and conservation problems, describes the major terrestrial and wetland habitats of the state, and defines the status categories.

Except for extirpated and extinct birds, each account includes the status, common name, scientific name, family, order, other names, description, range, habitat, life history and ecology, specialized or unique characteristics, basis of status classification, recommendations, selected references, and range map. Many accounts have black-and-white pictures of the birds or their habitat. Names of authors appear at the end of each article.

Most of the Florida birds that are in serious trouble frequent freshwater marshes and wet prairies or the immensely long coastal region, including the sandy beaches, sand and mud flats, coastal marshes, and mangrove swamps. The prairie region is the center of Florida’s cattle production. Although native grasses and wet areas are being lost through pasture improvement projects, the prairie region is in no danger of being covered with buildings and parking lots. Most of the coastal strip can be made suitable for intensive development, particularly for lucrative resorts, hotels, and recreational facilities. Not only does the original construction—often involving draining, filling, and

stream channelization—destroy nesting and feeding habitat, but also the influx of people leads to much thoughtless disturbance of nearby breeding colonies by fishermen, picnickers, curious nature lovers, beach buggies, and roaming pets. Fortunately, much prime wetland habitat lies within protected areas such as Everglades National Park, Corkscrew Sanctuary, and Pelican Island, Merritt Island, and Loxahatchie National Wildlife Refuges. Unfortunately, unwise manipulation of water resources in adjacent regions can create feeding problems for birds whose nesting sites are rigorously protected. This is especially true for the Wood Stork, which continues to decline in south Florida because of consistent nesting failures since 1960 even in Everglades National Park and Corkscrew Sanctuary.

Studying the individual accounts brings home to the reader a basic truth stated by Dr. Kale in his introduction: "The preservation of wildlife involves the preservation of suitable habitat. The majority of the species on the FCREPA List are not there as a result of direct persecution by man, but because of man's destruction or alteration of habitat or some critical factor in the environment of these species." This idea is further emphasized in the Southern Bald Eagle account by David W. Peterson and William B. Robertson Jr. They point out that shooting Bald Eagles is now considered socially unacceptable, but the bulldozing of unoccupied nest trees still occurs all too often. They imply that the Bald Eagle cannot long continue to nest in Florida outside public lands unless developers can be made to feel that destroying an eyrie is just as unacceptable as killing the birds outright. Are we approaching the stage when public opinion can convince a land developer that having a pair of eagles nesting in the neighborhood is a good sales point?

Certainly public awareness of the plight of endangered and threatened birds is an important aspect of the recommendations made by FCREPA. Educate children not to take owlets as pets, which is a great temptation where Burrowing Owls nest close to homes and schools. Educate ranchers to appreciate Caracaras and to preserve their habitat. Educate beach users to remain a safe distance from nesting colonies, preferably by posting sites with interpretive signs that will elicit enthusiastic cooperation. Educate foresters to leave tracts of mature pines to provide feeding areas and replacement cavity trees for Red-cockaded Woodpeckers. Educate fishermen to remove their gear from entangled birds, particularly Brown Pelicans. Educate people to report events that endanger wildlife populations.

For some taxa, the bird committee suggests relatively simple and inexpensive habitat restoration, preservation, or improvement practices. But for others, knowledge of feeding habits, nesting behavior, population trends, and habitat requirements is too scanty to permit any recommendation other than an urgent plea for further studies. The toughest problems are, of course, the ones that can be solved only through basic and widespread changes in the management of wetlands and water resources. We can only hope that publication of this report will result in positive action on the committee's many realistic, practical, and vitally important recommendations.—EFP

SOME ADAPTATIONS OF MARSH-NESTING BLACKBIRDS

Gordon H. Orians. 1960. Princeton University Press, Princeton, New Jersey. 295 p. Illus. Index. \$18.00 cloth, \$7.95 paper.

Professor Orians uses models derived from Darwin's theories of natural selection to predict the behavior and morphology of individual blackbirds as well as the statistical properties of their populations. This book, for the most part, is difficult reading for everyone except the professional biologist with a good background in statistics. It is mentioned here primarily to bring to the attention of advanced bird students the existence of a fine series of Monographs in Population Biology, of which the present volume is the fourteenth. Other works in the series include *The Theory of Island*

Biogeography by Robert H. MacArthur and Edward O. Wilson. *Populations in a Seasonal Environment* by Stephen D. Fretwell (formerly a graduate student at North Carolina State University), and *Food Webs and Niche Space* by Joel E. Cohen. Books such as these have a limited readership, but they may profoundly influence the thinking of the next generation of biologists.—EFP

EAGLES HAVE BAD BREATH
Or How To Identify Birds
without knowing anything about them

Jack Aulis. 1980. Privately published, Raleigh, N.C. 32 p. Illustrated with woodcuts by Lois H. Aulis. Paperback. \$4.00 (\$4.40 postpaid with tax from Eagle's Breath, P.O. Box 5114, Raleigh, N.C. 27650).

As the title clearly indicates, this book deals with the lighter side of bird watching. Aulis describes the Eastern Bluebird as "fittingly clad in the national colors"—blue, rust, and dirty-white. Of the female House Sparrow he says, "She knows not the pill. Nor cares." His nuthatches go "Down the Up tree trunk." And why do eagles have bad breath? Well, just think about their feeding habits.

If you are looking for something to cheer the ailing naturalist, this is it. One word of caution: Don't take a copy to anyone who has had abdominal surgery until you are sure the patient can enjoy a good belly laugh.—EFP

HOW TO CONTROL HOUSE SPARROWS

Don Grussing. 1980. Roseville Publishing House, P.O. Box 8083, Roseville, Minnesota 55113. 52 p. Paperback. \$3.95 ppd.

Although the author freely admits that there is no quick and easy solution to the problem of excessive House Sparrows and Starlings, he indicates that diligent application of one or more of his suggested control methods will greatly reduce the local population of these troublesome birds. Grussing points out that improperly maintained martin houses can become sparrow slums and suggests ways to keep House Sparrows from competing with Purple Martins. He says that certain foods (e.g. millet, cracked corn, breadcrumbs) attract House Sparrows and are not preferred by native songbirds. Just switching to sunflower seeds may discourage House Sparrows from dining at your feeder. If the relatively simple control methods do not work, some of the more aggressive techniques may be effective. Two traps are illustrated, and trapping methods are discussed in detail. Use of guns and poisons is mentioned, but discouraged because the dangers to neighbors, pets, and protected birds generally outweigh the benefit of destroying a few House Sparrows and Starlings. In the long run, the most satisfactory methods seem to involve making the neighborhood unsuitable for the feeding, nesting, and roosting of the unwanted species. For city dwellers this kind of program frequently requires the tactful education of neighbors who "love the birds" but can't tell one species from another. Indeed, there is no quick and easy solution, but a thoughtful reading of Grussing's booklet may improve your chances for success in the war against House Sparrows.—EFP

**ENDANGERED AND THREATENED WILDLIFE OF KENTUCKY,
NORTH CAROLINA, SOUTH CAROLINA, AND TENNESSEE**

Warren Parker and Laura Dixon. 1980. U.S. Fish and Wildlife Service and the Cooperative Extension Service of the four state departments of agriculture. 116 p. Illus. Glossary. Paperback. Available free of charge from county extension agents, state extension service, state game and fish agency, or U.S. Fish and Wildlife Service, Asheville, N.C.

The list of endangered and threatened mammals, birds, fishes, reptiles and amphibians, mollusks, and plants is said to be correct as of October 1979. For each species there is a color photograph or drawing and text having the following topic headings: status, description, distribution, habitat and characteristics, and remarks. Where appropriate, there is a regional range map. A very helpful scale in inches and millimeters is provided for the photos of mussel shells. Seven endangered avian species are included: Peregrine Falcon (two races), Bald Eagle, Bachman's Warbler, Kirtland's Warbler, Brown Pelican (eastern race), Ivory-billed Woodpecker, and Red-cockaded Woodpecker. The range maps are the weakest feature in the book. For example, the range map for the Eastern Indigo Snake shows the race in extreme southern South Carolina without specifying, as does the text, that the area is in its historic range but not in its present-day range. A question mark would have been appropriate in the perfectly oval and obviously hypothetical South Carolina range of the Ivory-billed Woodpecker. Or, better yet, why not show the historic range with dots for modern sight reports? The two Peregrine Falcon range maps are at best confusing. Nevertheless, this is an attractive and informative booklet that should appeal to the general public.—EFP

CORRECTION: In a review of *Penguins* by Roger Tory Peterson (Chat 44:28), the writer inadvertently used *Arctic* where *Antarctic* obviously was intended.—ED.

BACKYARD BIRDING

(Continued from Page 38)

unafraid, and I am permitted to see behavior I would miss on a field trip. Perhaps one of the most interesting experiences is watching the behavior of juvenile birds. Once on their own, so to speak, they learn about their world. Some young birds display a great deal of curiosity. They use their mouths much as a human baby does to test things for edibility. They try out foods not normally associated with their species. They show interest in what other birds, the adults of their own or other species, are doing. I recall, for instance, watching a young Blue Jay fly up in a tree to look over a juvenile Red-headed Woodpecker that had appeared on the scene. The jay looked it over from all angles. Another time there were several Brown-headed Nuthatches making quite a fuss up in a pine. A young Cardinal flew up to investigate. Young birds play, running about and chasing each other, apparently just for fun and exercise. Once I saw a juvenile Carolina Wren watching an adult chipmunk gathering nuts and seeds. The bird made an attempt to chase the chipmunk, apparently inviting it to play. Of course the chipmunk was not interested. Another thing that has been fascinating to observe is what the young birds fear by instinct. They all appear to recognize the cat as an enemy, but ignore squirrels, chipmunks, and rabbits. Dogs cause them to get to a safe perch, but they do not scold them as they do a cat.

There is so much to see in your own backyard that I could not begin to tell the half of it. Just when one begins to tire of the same old birds doing the same old thing, the season changes—new birds come along, old ones leave, resident birds take up new activities.

If you know your everyday, garden variety of birds well, then you do not waste valuable time on a field trip (where you want to see something different, new, or unusual) tracking down a towhee or thrasher. When leaves are out on trees and thickets are dense, birding by ear makes the task so much easier and releases one to study the birds whose calls and songs are unfamiliar. Backyard birding is an excellent training ground for bird study of any kind. It can be interesting, exciting, and informative. Backyard birding is what *you* make it. So, if you haven't tried it, don't knock it!



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Carolina Bird Club, Inc., is a non-profit educational and scientific association founded in March 1937 and open to anyone interested in the study and conservation of wildlife, particularly birds. Dues, contributions, and bequests to the club are deductible from State and Federal income and estate taxes. Checks should be made payable to Carolina Bird Club, Inc., and sent to CBC Headquarters, P.O. Box 1220, Tryon, N.C. 28782.

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All CBC members not in arrears for dues receive *The Chat*, a quarterly journal devoted to bird study and conservation, and the *CBC Newsletter*, which carries information about meetings, field trips, and club projects. Articles intended for publication in *Chat* may be sent to the Editor or to the appropriate department editor listed in a recent issue of the bulletin. Items for the *Newsletter* should be sent to its Editor, Clyde Smith, 2615 Wells Avenue, Raleigh, N.C. 27608. Correspondence regarding memberships, changes of address, or requests for back numbers of either publication should be sent to CBC Headquarters, P.O. Box 1220, Tryon, N.C. 28782.

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The Chat

(USPS 101-020)

Quarterly Bulletin of Carolina Bird Club, Inc.
The Ornithological Society of the Carolinas
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SUMMER 1980

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Vol. 44

SUMMER 1980

No. 3

Published by the Carolina Bird Club, Inc.

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OUR COVER—Fred Weisbecker photographed a White Pelican that lingered at Statesville, N.C., for about a month in the fall of 1979. (See Briefs for the Files for details on this and other White Pelican sightings in the Carolinas.) Mr. Weisbecker is a Wildlife Protection Officer.

SUPPLEMENT TO THE 1978 CHECKLIST OF NORTH CAROLINA BIRDS

Since the appearance of the 1978 *Checklist of North Carolina Birds* (Parnell et al. 1978), various species have been added to the list and others have had the criteria for admission to the list upgraded. Presently 417 species of birds have been officially recognized as occurring in North Carolina and its adjacent offshore waters. Thirty-four of these are provisional. At least 193 species are known to nest in the state and about 75 additional ones are frequent winter visitors.

Details explaining the way bird records are considered for admission to the state list can be found in the 1978 *Checklist* and *Chat* 32:26, 38:70, and 41:93. At its last meeting, 6 March 1980, the North Carolina Records Committee decided to reterm and redefine "hypothetical" status. We felt the term itself was misleading, in spite of our insistence that its use in no way was intended to cast doubt on the ability or integrity of the observer, and that only valid records supported by adequate published details warrant hypothetical status. In all future lists we plan to substitute the word *provisional* for *hypothetical*. To further identify the provisional status of birds, we subdivided the provisional list into two parts. Provisional I birds are ones for which there is little question as to the birds' natural occurrence in North Carolina and at least one detailed report has been published. Provisional II birds are ones that possibly escaped from captivity, are not well documented in appropriate literature, and/or belong to species complexes that are extremely difficult to identify in the field. Provisional II species are included mostly to inform users of the list that the Records Committee is aware that certain birds have been reported.

The following is a list of official changes to the 1978 *Checklist*; in most cases the reasons for the changes are noted. The North Carolina Records Committee will appreciate notification of additional recommended changes.

Arctic Loon, Provisional II (Am. Birds 28:626).

Albatross (sp.), Provisional II (Am. Birds 27:739-740 and *Birding* 4:6, Black-browed Albatross; *Chat* 43:79 and Am. Birds 33:720, Yellow-nosed Albatross. We do not question that Albatrosses occur in North Carolina offshore waters, but we are concerned about the criteria for specific identity.)

Northern Fulmar, added to list, specimens (*Chat* 43:1-9).

Manx Shearwater, added to list, specimens (*Chat* 43:1-9).

Little Shearwater, Provisional II (*Chat* 43:79-80).

Black-capped Petrel, specimens and photos now available (*Chat* 43:1-9).

South Trinidad Petrel, added to list, specimen (Am. Birds 33:138-139).

White-faced Storm-Petrel, added to list, specimen (*Chat* 43:1-9).

[Red-billed Tropicbird, added to list pending publication of completed manuscript (Lee and Wingate 1980). Specimens available.]

White-tailed Tropicbird, specimen available (NCSM 6828).

Blue-faced Booby, Provisional I (*Chat* 30:107 and 43:80).

Brown Booby, Provisional II (*Chat* 43:80-81).

White-faced Ibis, Provisional II (Am. Birds 31:979).

Mute Swan, Provisional I (*Chat* 41:95).

Barnacle Goose, Provisional II (occurrence well documented but birds possibly escaped from captivity).

Common Shelduck, Provisional II (see Barnacle Goose, Am. Birds 26:845).

Ruddy Shelduck, Provisional II (see Barnacle Goose).
 Falcated Teal, Provisional II (see Barnacle Goose, specimen, Chat 42:58).
 Baikal Teal, Provisional II (see Barnacle Goose, specimen, Chat 26:30).
 Garganey Teal, Provisional II (see Barnacle Goose, Chat 21:68 and 80).
 Mandarin Duck, Provisional II (not in 1942 Birds of North Carolina as erroneously indicated in 1978 Checklist; Chat 38:70).
 Barrow's Goldeneye, Provisional II (Chat 35:45-49).
 White-tailed Kite, Provisional I (Chat 21:70-71).
 Mississippi Kite, (listed in 1942 Birds of North Carolina; dot inadvertently omitted).
 Swainson's Hawk, Provisional I (The committee assigned the status on the basis of the 1965 sighting alone. Descriptions given in the reports elsewhere in this issue of two recent sightings, apparently of the same bird, were not fully convincing. We would like to have a specimen, adequate photograph, or at least one additional detailed sight record before adding Swainson's Hawk to the accepted list.)
 Prairie Falcon, Provisional I (Chat 33:26).
 Limpkin, Provisional I (Chat 40:94-95).
 American Coot, second nesting record (Chat 42:87).
 American Avocet, one documented nest record (Chat 42:31-32).
 Bar-tailed Godwit, Provisional I, third report lacks details (Chat 41:48 and 49, Am. Birds 29:41).
 [Black-tailed Godwit, added to list pending publication of December 1979 sight and photographic records.]
 Spotted Redshank, Provisional II (A Gathering of Shorebirds, H.M. Hall, edited and with additions by Roland C. Clement, Devin-Adair Co., New York, 1960, p. 231-232).
 Long-tailed Jaeger, added to list, specimens (Chat 43:1-9).
 Great Skua, added to list, band recovery (Chat 43:1-9).
 Iceland Gull, Provisional I (additional unpublished records available).
 Lesser Black-backed Gull, added to list, three detailed published records (Chat 33:16-17, 35:58, and this issue).
 Thayer's Gull, Provisional I (Chat 37:50).
 Arctic Tern, added to list, specimen (Chat 43:1-9).
 Sooty Tern, one report of attempted nesting (Chat 43:23).
 Brown Noddy Tern, added to list, specimens (Chat 43:81).
 Ringed Turtle Dove, Provisional II (no evidence that escaped individuals are maintaining self-sustaining populations).
 Monk Parakeet, Provisional II (see Ringed Turtle Dove).
 Budgerigar, Provisional II (see Ringed Turtle Dove).
 Smooth-billed Ani, Provisional II (probable escape).
Selasphorus hummingbird, Provisional II (reported as a probable Rufus Hummingbird, Chat 41:70-71).
 Ash-throated Flycatcher, Provisional I (Chat 39:40-43, Am. Birds 28:891).
 Say's Phoebe, Provisional I (Chat 30:28-29).
 Vermilion Flycatcher, Provisional II (Am. Birds 27:43).
 Tree Swallow, one nesting record (Chat 44:9).
 Bank Swallow, nesting in Wilkes County since 1978 (Chat 42:83-84).

Black-billed Magpie, Provisional I (Chat 24:25).
Black-capped Chickadee, evidence of nesting now available (Chat 44:1-4).
Hermit Thrush, possibly nests in mountains (Chat 44:32-36).
Bell's Vireo, Provisional I (Chat 39:92-93).
Golden-winged and Blue-winged Warblers, footnote for Lawrence's and Brewster's hybrids was left off page 29 of 1978 Checklist.
Magnolia Warbler, probably breeds in mountains (Chat 44:32-36).
Black-throated Gray Warbler, Provisional II (Chat 30:18, 24).
Townsend's Warbler, Provisional I (Chat 42:85).
Western Meadowlark, Provisional I (Chat 32:104-105).
Common Redpoll, photo available in NCSM files.
Green-tailed Towhee, Provisional II (Am. Birds 30:53-54).
Lark Bunting, photo published (Chat 43:56).
Le Conte's Sparrow, specimen available at USNM (Chat 42:60).
Lark Sparrow, photo available in NCSM files.
Harris' Sparrow, added to list, three published reports (Chat 42:60-61).
Smith's Longspur, Provisional I (Auk 65:456).

DAVID S. LEE
Chairman, North Carolina Records Committee
1 July 1980

[NOTE: Copies of the 1978 *Checklist of North Carolina Birds* are available by mail for \$1 from the North Carolina State Museum, P.O. Box 27647, Raleigh, N.C. 27611, or from CBC Headquarters, P.O. Box 1220, Tryon, N.C. 28782.—EFP]



Roundtable

... with Louis C. Fink

Birding on the Road

Marion Jones's article in the Spring 1980 CBC NEWSLETTER brought back memories of my trip to Europe in 1967—and what seemed to be the startling differences I found in three countries. In London, my banker-friend knew exactly what I wanted. He put me on the bus to Hampstead Heath for a marvelous day of bird-watching. Once there, I met a young Irishman who was more than willing to help me find birds. In Paris, I made contact with an ornithological society, but the language barrier proved too much for me and them—and I was left to explore Versailles and the Bois de Boulogne on my own. Rome was the climax! The Italians could not believe that I wanted to *see* birds and not shoot them. The Romans were uniformly polite and assured me that if I wanted to see birds, I should go to the zoo and not wander about the countryside!

There is a trick I have used with great success in this country. In visits to 25 cities, I have always written in advance to the compiler of the Christmas Count and asked him to suggest a good place for birding. About 50% of the locals can't resist the temptation to show off their good birds to a stranger. Denver was the best in terms of species: two volunteers added 49 birds to my life list in one day. But Tucson was even more rewarding! I went birding with Edward Chalif (just after he had finished his Mexican book with Roger Peterson) and was graciously entertained for dinner.

In all fairness, let me say that I have returned the favor many times by showing visitors my favorite spots. I'll never forget the man from Scotland with a life list of over 2,000. All he wanted was to see a Brown-headed Nuthatch, and we found one.—LCF

CBC Members in Print

"William Brewster's Exploration of the Southern Appalachian Mountains: The Journal of 1885" edited by MARCUS B. SIMPSON JR. appears in the January 1980 issue of *The North Carolina Historical Review* (57:43-77). Dr. Simpson's commentary relates the journal entries to statements in Brewster's published account of the journey (Auk 3:94-112 and 173-179) as well as to the presently known status of the species mentioned. Brewster's journal provides important documentation of conditions in the southern Appalachians when much of the land was untouched by the logging industry. The paper is generously illustrated with appropriate photographs and drawings from the period.

"The Boy Who Wanted to Paint Birds" by JAY SHULER (Birding 11:280-283) is a brief but intimate biographical sketch of William Zimmerman, whose Bachman's Warbler painting was reproduced on the cover of the Spring 1977 *Chat*. Reprinted in the same issue of *Birding* are two articles from *Chat* pertaining to the Bachman's

Warbler. The American Birding Association is offering a limited edition of 1000 signed and numbered copies of Zimmerman's Bachman's Warbler painting as the first in its art print series (\$40 members, \$50 to nonmembers). Among the artists for future editions is H. DOUGLAS PRATT, whose work appears in *Chat* from time to time.

"Notes on Nesting Yellow-billed Cuckoos" by ELOISE F. POTTER (*Journal of Field Ornithology*, Winter 1980, 51:17-29) is a detailed accounting of the Yellow-billed Cuckoos that nested in the author's yard in 1973. As the nest was only 12 m from a convenient window and at eye-level, nesting could be observed intimately without any human disturbance. The result is far more information than A.C. Bent included in his famed *Life Histories*. The article is a genuine contribution to our store of knowledge and a solid demonstration of what a competent observer can accomplish without extensive travel.

One Approach to Woodpecker Damage

During the fall of 1979 several large holes were made by woodpeckers, completely through the redwood siding of a house in Paducah, Kentucky. I suggested the hanging of net bags of suet around the yard where the woodpeckers would find them. The owners of the house have since reported that the woodpeckers are on the suet constantly and have not drilled on the house since the suet was made available.—MRS. L. WOOLFENDEN, 250 Pecan Drive, Paducah, Kentucky 42001 (Reprinted from *Kentucky Warbler* 56:23)

Note: Woodpeckers have caused complaints by tapping on metal gutters, staking territorial claims rather than seeking food. At my home in New Jersey, a Downy Woodpecker drilled into a freshly painted wall, was held by the fresh paint, and died.—LCF

Finding an Olive-sided Flycatcher

The Olive-sided Flycatcher is classified as rare in North Carolina, usually restricted to the mountains in summer. Here are directions to the spot where I heard the bird in June 1979:

From Blowing Rock, take US 221 south to Linville Falls (some miles south of Linville). At the town of Linville Falls, go left on NC 183. After a mile or less on this road, find a sign on the right by a narrow dirt road reading "Wiseman's View." This road is best suited for a Jeep, but we made it in a conventional car. Continue on this road until a sign on the left denotes a turn-off for Wiseman's View. Do not turn but continue past the sign for about a mile. I heard the bird on the south slope of a mountain on the right-hand side of the road, with a clearing for camping. On the slope was cluster of pines; most of the trees were hardwoods. I could not see the river but could hear it on the left.—GAIL T. WHITEHURST, 1505 Brooks Avenue, Raleigh, North Carolina 27607

Help for the Red-cockaded Woodpecker

"The Red-cockaded Woodpecker: Notes on Life History and Management," by Robert G. Hooper, Andrew F. Robinson Jr., and Jerome A. Jackson, is an 8-page report that provides landowners and foresters with advice on forestry practices that will aid in creating a favorable habitat for this endangered species. Illustrated with a range map and 18 color photographs, the report describes the bird, its life history, and how to distinguish it from other birds. To obtain a free copy of General Report SA-GR 9, write to USDA Forest, Information Center, Suite 816, 1720 Peachtree Road N.W., Atlanta, Ga. 30367.

Backyard Birding

... with Gail T. Whitehurst

Backyard Birder, what's happening in *your* back yard? Let us hear from *you*! In case you are a bit hesitant about sharing observations with us, we have here some examples. Time, date, and place are nice, but not necessary.

How to Bathe a Hummingbird

On 3 May 1980 I was using a garden hose to mist some house plants recently moved outdoors for the summer when a female Ruby-throated Hummingbird darted into the spray. She hovered briefly and flew to a nearby limb to preen. She returned to the spray repeatedly, once passing within 5 feet of me, and perched as close as 8 feet away. During the many years that I have kept data on water-bathing in wild birds, I have seen hummingbirds fly through the spray of my water sprinkler many times. This, however, is the first time I have ever seen a hummingbird or any other kind of wild bird bathe at a hand-held hose.—ELOISE F. POTTER, Route 3, Box 114 AA, Zebulon, N.C. 27597

I Heard a Hummingbird Sing!

At approximately 0910 on 16 October 1974, I watched an immature Ruby-throated Hummingbird light on my clothesline within 18 feet of where I was standing. It sat perhaps a minute or more, fluffing out body feathers, shaking wings, and singing! The song was high, thin, and barely audible. It was two or three notes in a warble, similar to the song of the Ruby-crowned Kinglet, but softer. It was definitely musical. The bird turned its head from side to side while singing and I could see the throat move and the bill open. I was observing with binoculars. I have often heard the metallic call note of hummers feeding and a loud squeaking when chasing or attacking another bird. This "song" had none of that metallic or squeaky quality. I could find no reference to an actual song for the Ruby-throated Hummingbird in Bent.—GAIL T. WHITEHURST, 1505 Brooks Avenue, Raleigh, N.C. 27607

And Speaking of Hummingbirds ...

Do you know the Portuguese word for hummingbird? It is *beija-flor*, pronounced *bāy' jā-flōr'*, with a very soft *j* and the *r* rolled off the back of the tongue. The English translation is "kisses-flower." This delightfully appropriate name was given to me by my neighbor Gladys Baker, whose nephew Willis Reid is a U.S. Army parasitologist stationed in Brazil. He and his lovely wife Jan, also a professional biologist, write fascinating letters about life in their new home, particularly about the birds and flowers. Their young sons speak casually of toucans and such, but they become excited when they see our native songbirds during visits to North Carolina.—EFP

Molting and Associated Grooming

Backyard birding in the summertime can become pretty humdrum. Fewer species are to be found in any one yard during the nesting season than at other times of the year. The weather is hot and humid, and it is not pleasant to spend long hours outside. As summer wears on most adult birds are molting and are a ragged, motley looking crew. Baby birds and fledglings keep up a constant din begging to be fed. Nothing much worth looking at, right? Wrong! There is much drama in the bird world in summer—comedy and tragedy, success and failure. But something is going on all the time.

Molting birds may look unattractive, but they can be most interesting to watch. The many aspects of grooming are fascinating. We are, perhaps, more familiar with water-bathing than any other grooming activity. There are also sunbathing, dusting, and anting. It would appear that birds are most uncomfortable during the molt period. In addition to the heat and humidity, there seems to be skin irritation that may be somewhat alleviated by hot sunshine, dust, water, and ants. The old birds are tired from the hard work of feeding young. When the last brood is on its own, they retire to the shadows to spend much time in resting and grooming. They seldom sing during this period. Tempers are short as pairs split up and young birds are sent on their way. The postnuptial molt begins during the breeding season for some birds that nest more than one time, and it may stretch from late spring into early fall.

The first time one sees a bird sunbathing, it is a fearsome sight. The adult bird (and young, too, during postjuvenile molt) may lie on the ground with wings and tail outspread, head facing the sky, beak open as it pants, and eyes covered by the nictitating membrane or third eyelid. Perhaps some feathers are missing to further the impression that the bird is mortally ill or wounded and is at death's door. Any sudden disturbance will dispel that notion, however, as the sunbather can respond and be gone in a flash.

House Sparrows, Brown Thrashers, and Common Flickers all dustbathe in my driveway. They make little hollows in the midst of the gravel and may spend many minutes at a time wallowing in these. They twist and turn their bodies in the dust, peck at it, and do a lot of preening. Often they combine this with a sunbath. The dustbath may, or may not, be followed by water-bathing.

Anting is another form of grooming and seeking comfort, but one that is not often seen. The only species I have ever observed anting are the Common Flicker and the Cardinal. The flicker does his anting next to an anthill. He picks up ants in his beak and rubs them into his body feathers, especially under the wings and at the base of the tail. Flickers normally feed on ants, and it appears to me that when they finish the anting, they eat the ants.

I have only seen a Cardinal anting one time. Late on the evening of 19 August 1979, I saw a male Cardinal in a corner of the lawn behaving in a strange manner. He dragged his belly and tail (feathers outspread) across the grass a few inches. Then he pecked at a blade of grass. Following this, he opened his wings and ran his beak through the feathers on his body, under the wings. He repeated this several times for 3 or 4 minutes. After he flew away, I examined the spot where he had been and found a dozen or more very small ants. I was watching the bird from 20 feet away and could not see the ants. The Cardinal was molting and very ragged.

Recently, I saw a form of grooming that I had never seen before—a substitution of mothballs for ants. Earlier in the season I had placed some small mothballs under shrubbery to keep dogs away. About 1740 on 6 June 1980, a very hot and muggy day, I noticed some seven adult male Common Grackles milling around near these shrubs picking up something white in their beaks and rubbing it on their bodies, under the wings and at the base of tails. Grabbing my binoculars, I discovered that the white things were mothballs. The grackles were using these mothballs in the same manner as

other birds use ants. The following day, I observed the same number of grackles doing this "mothballing" again. They were somewhat hostile with each other, and there appeared to be considerable competition for the mothballs. I saw one bird pick up a mothball and fly off with it. In a day or so after this activity took place, I noted that all of the mothballs placed under the shrubs were gone. I have also noted that a number of grackles are molting.

A molting bird, depending upon the stage of the molt, can be a pitiful, sometimes comical sight. It can also be difficult to identify at times if one does not already know the bird well. I have seen many a bald-headed Cardinal and Rufous-sided Towhee. Towhees, Brown Thrashers, Gray Catbirds, and once in a while, an American Robin will have all tail feathers missing at the same time. This affects their running, walking, and flying movements. To me, a Brown Thrasher without its typical long tail resembles a tiny brown heron, especially since it has such a long beak and yellow eyes. It is funny to see a bird with a loose feather sticking straight up on its back. Cardinals, especially, tend to loosen breast and belly feathers in large patches that hang down around their feet like the droopy drawers of a little guy I used to see in comic strips. It may be my imagination—I try not to be anthropomorphic—but it seems as though birds that are completely disheveled attempt to stay out of sight as much as possible, as if ashamed to be seen. In birds whose plumage, sleek and colorful in spring, plays a large part in attracting a mate, there must be some awareness that the beauty has faded and gone.—GTW

BRIEFS FOR THE FILES

(Continued from page 87)

TREE SWALLOW: One was very early on 29 February at Lake Surf, noted by Tom Howard.

BARN SWALLOW: John Andre and Bud Pollock observed one on the McClellanville CBC on 16 December.

FISH CROW: Rare in the piedmont in winter were 10 near Townville, S.C., on 15 December (Harry LeGrand), and one at Raleigh on 26 January (Gail Whitehurst).

LONG-BILLED MARSH WREN: One was seen by Merrill Lynch on the Raleigh CBC on 15 December.

SHORT-BILLED MARSH WREN: Notable inland records were one seen on the Chapel Hill CBC on 30 December by Fritz Reid and Martin Stumpf, and two observed by Douglas McNair at Santee refuge on 22 February.

BLUE-GRAY GNATCATCHER: Two were seen by Mike Tove, Kevin Hints, and Dan McElroy at Raleigh on 14 December. Also notable were two at Santee refuge on 19 January (Douglas McNair) and on at Clemson on 20 January (Sidney Gauthreaux).

WHITE-EYED VIREO: One observed singing on 9 March near Newport, N.C., by John Fussell III and R.J. Hader might have been an overwintering individual.

BLACK-AND-WHITE WARBLER: Single individuals, all probably late fall and early winter stragglers, were noted on CBCs at Raleigh, Durham, and Fayetteville, and near Morehead City on 19 December (Thomas Newport).

ORANGE-CROWNED WARBLER: Tom Haggerty observed one on the Roanoke Rapids CBC on 1 January.

- NASHVILLE WARBLER:** One was exceptionally late at Pea Island on 27 December, when it was carefully studied by Ken Knapp and Kent Ihrman. Marks noted were yellow underparts with white under-tail coverts, gray head, olive-green back, no wing bars, and a white eye ring.
- NORTHERN PARULA:** Tom Reeves noted a female at Magnolia Gardens, near Charleston, on 15 January.
- YELLOW WARBLER:** One seen by Perry Nugent on the McClellanville CBC on 16 December was very unusual. The yellow patches in the tail were noted, as well as the yellow-green back, bright yellow underparts, and wing bars.
- CAPE MAY WARBLER:** Quite rare in winter were two seen at McCain, Hoke County, N.C., on 5 December by Libba Watson, with one seen again on 4 January.
- YELLOW-THROATED WARBLER:** One was late on the Raleigh CBC on 15 December, as observed by Mike Tove and Dan McElroy.
- NORTHERN WATERTHRUSH:** Paul Sykes noted a very rare winter individual in shrubs at South Pond on Pea Island on 27 December. The sharp call note and tail bobbing were also noted.
- WESTERN TANAGER:** Merrill Lynch observed one on the Roanoke Rapids CBC on 1 January. Though most winter sightings in the Carolinas are at feeders, this individual was seen in rural country in scattered trees along a roadside. A feeder bird, identified as a male, was seen in New Bern, N.C., late in January by Bob Holmes, John Fussell III, and others.
- SUMMER TANAGER:** Two males were unusual on the Charleston CBC on 30 December, as noted by Pat and Renee Probst on Bulls Island.
- ROSE-BREASTED GROSBEAK:** A male was seen at a feeder at Charleston from 20 to 25 December by Shand Lessman et al., and another male, beginning to attain breeding plumage, was noted at a Morehead City feeder on 7 February by Doris Benbow.
- INDIGO BUNTING:** Very rare for the season was a female or immature male seen in open pinewoods in Croatan National Forest in western Carteret County on 1 February by Bob Lewis and Allen Bryan.
- EVENING GROSBEAK:** This species was in rather low numbers in most Carolina counties this winter, but it was fairly common in central North Carolina. Douglas McNair tallied 600 at the Pee Dee refuge on 9 January.
- HOUSE FINCH:** These finches enjoyed their biggest winter ever in the Carolinas, and they outnumbered Purple Finches in some areas, particularly in the piedmont. The first record for Cumberland County was of two birds seen by P.J. Crutchfield at Fayetteville on 25 February. Also notable were up to 20 at feeders in Salem, Oconee County, S.C., during the winter (Elva Darnell), and small numbers at feeders in the mountains at Brevard, N.C., this winter (Doug Wauchope, Betty McIlwain). Other reports of interest were as many as nine this season at a Morehead City feeder (Charles Lincoln); up to eight at a Goldsboro, N.C., feeder in February (fide Dana Carter); 18 at Rockingham, N.C., on 24 February (Douglas McNair); and 200+ at Allen Bryan's feeder and yard in Burlington, N.C., all winter.
- PINE SISKIN:** This species, along with the Red-breasted Nuthatch, was extremely scarce in the Carolinas during the winter, with just a handful of reports. This is the second consecutive winter of low numbers for the siskin in this area.
- GRASSHOPPER SPARROW:** One mist-netted on the Clemson University campus on 22 February by Sidney Gauthreaux was quite surprising, as the species generally winters in fields in rural country.

- HENSLOW'S SPARROW:** North of the usual winter range was one seen in prime habitat (open pinewoods) in western Carteret County on 25 January by John Fussell III and Bill Moffitt, and possibly the same bird was noted the next day by Fran and Wayne Irvin. Several were seen in a weedy field at an abandoned golf course near Carolina Beach, N.C., on several dates in January by Pat Culbertson, Mike Tove, et al.
- LE CONTE'S SPARROW:** A good find was one seen by Sidney Gauthreaux near Martin, Allendale County, S.C., on 17 December.
- VESPER SPARROW:** Perry Nugent observed 100 at the U.S. Vegetable Lab near Charleston on 9 February, an excellent count for a species that has been declining in numbers as a winter resident in the Carolinas.
- BACHMAN'S SPARROW:** Jay Carter observed one at the Sandhills Game Land near Marston, Richmond County, N.C., on 31 January, and Sidney Gauthreaux saw another near Martin, S.C., on 16 and 17 December. One or two were also seen in open pinewoods in western Carteret County from December to February by Harry LeGrand, John Fussell III, et al. This species, as well as the Henslow's, might occur regularly in winter as far northeast as Carteret County.
- TREE SPARROW:** One seen by Bill and Margaret Wagner at Chapel Hill on 10 February was the only winter report received.
- LINCOLN'S SPARROW:** A good find was an individual seen at Bodie Island on a CBC on 27 December by Gary Williamson, and it was seen again 2 days later by Kevin Hintsa and Harry LeGrand.
- LAPLAND LONGSPUR:** A surprising number were reported during the winter: four at Mangum, Richmond County, N.C., on 8 December with Horned Larks and Water Pipits (Douglas McNair); one at Cape Hatteras point on 25 December (Mike Tove, Kevin Hintsa); 12 at Oconechee Neck on the Roanoke Rapids CBC on 1 January (Bob Lewis, Mike Tove); four at Jordan Reservoir on 19 January and one the following day (Lance Peacock, Margaret Pierce); and five at the U.S. Vegetable Lab near Charleston on 9 February (Perry Nugent).
- SNOW BUNTING:** The only winter report was an individual seen at Cape Lookout on a CBC on 22 December by Harry LeGrand et al.

PELAGIC BIRDS

Richard Rowlett spent much of the fall of 1979 on two U.S. Coast Guard cutters off the coast of the mid-Atlantic states, with approximately 25 days spent off the North Carolina coast, and 1 day (27 August) off the coast of South Carolina and Georgia. In North Carolina he spent 11 days offshore from 23 August to 10 September, the 7 days from 27 September to 3 October, both 15 and 16 October, and the 5 days from 1 to 5 November. Days were spent between 10 and 100 miles from shore. The following is a brief summary of the noteworthy observations, all from North Carolina unless otherwise indicated.

- CORY'S SHEARWATER:** Approximately 5975 individuals were seen on 19 of the 25 days, including 3 of the 5 days in November; outstanding counts were 1404 on 9 September, 1014 on 29 September, and 1741 on 2 November.
- GREATER SHEARWATER:** Surprisingly scarce, with only 10 individuals seen on seven dates.
- SOOTY SHEARWATER:** Seldom seen on the Carolina coast after June, single individuals were thus rare on 9 September and 28 September.
- MANX SHEARWATER:** One observed on 4 November, between Capes Fear and Lookout, was a first fall record for North Carolina.

- AUDUBON'S SHEARWATER:** Approximately 4825 birds were noted on 18 of the 25 days, with excellent totals of 565 on 9 September, 2285 on 29 September, and 1439 on 2 November.
- BLACK-CAPPED PETREL:** Approximately 435 of these "rare" gadfly petrels were seen on 12 of the 25 dates, with exceptional counts of 154 on 8 September, 69 on 28 September, and 100 on 30 September. Five were of interest on 2 November. On 27 August Rowlett noted 31 Black-cappeds while in Georgia and South Carolina waters, but a state-by-state breakdown was not made.
- WILSON'S STORM-PETREL:** Seen on the majority of days, but the only count in triple figures was 132 on 1 September. No Leach's or other storm-petrels were noted in Carolina waters.
- WHITE-TAILED TROPICBIRD:** Single individuals were observed on 5 September and 27 September.
- BROWN BOOBY:** One was reported, without details, on 28 August between Capes Fear and Lookout.
- NORTHERN PHALAROPE:** A total of 215 were tallied on six of the 25 dates, with the last seen on 3 October.
- RED PHALAROPE:** Just two individuals were seen during the fall off North Carolina; the species is far more numerous in December than it is in any other month in the fall (see Lee and Booth, 1979, *American Birds* 33:715-721).
- POMARINE JAEGER:** A total of 75 birds were observed on nine of the 25 dates, with a peak of 29 on 2 November.
- PARASITIC JAEGER:** Twenty were noted on nine dates, with a peak of six on 2 November.
- LONG-TAILED JAEGER:** Seven of these rare jaegers were observed, with two on 1 September, one on 5 September, three on 28 September, and one on 29 September.
- BLACK-LEGGED KITTIWAKE:** One was extremely early on 1 September; 44 were tallied on four of the five dates in November.
- ARCTIC TERN:** Unprecedented numbers were reported for the Carolinas, with one on 7 September, 17 on 8 September, 20 on 9 September, 30 on 10 September, five on 2 October, and single birds on 3 and 15 October.
- ROSEATE TERN:** Surprising numbers were seen, with 20 counted from 8 to 10 September.
- SOOTY TERN:** Before this season, the previous high pelagic count for North Carolina was just 14 birds, but Rowlett recorded truly impressive numbers. He tallied 195 on several dates in late August, with 159 on 28 August. From 5 to 10 September he observed 940 Sooties, with 668 occurring on 9 September. Other records were four on 29 September, and singles on 30 September and 2 November. Approximately 85% of the Sooties seen during the season were adults.
- BRIDLED TERN:** A total of 177 were seen on most dates from late August to mid-September, but only one bird was seen on a later date (29 September).
- BROWN NODDY TERN:** Highly noteworthy were one seen on 28 August and three noted on 9 September.

USE OF BLUEBIRD NEST BOXES IN COASTAL SOUTH CAROLINA

WILLIE H. TOMLINSON JR. and FREDERICK L. HAINES III

Abstract.—On 2 February 1978 bluebird nest boxes were erected on a portion of the Buist Tract, a 40,000-acre tract of International Paper Company land located in Horry County, S.C. Boxes made of weathered Bald Cypress were placed at selected locations. Of the 17 boxes erected, 11 (64.7%) were occupied by bluebirds while the remainder were either occupied by other species or showed little or no indication of nesting activity. Approximately 68 young were produced the first season.

The status of the Eastern Bluebird (*Sialia sialis*) has been the topic of much controversy in recent years. Bluebirds are cavity nesters, and their population decline has reportedly been the result of two main factors: (1) clean farming coupled with the increased use of metal fence posts and (2) the increased and indiscriminate use of pesticides. Intensive forest management practices and increased competition from expanding populations of House Sparrows (*Passer domesticus*) and Starlings (*Sturnus vulgaris*) have also been mentioned as contributing to the bird's decline.

While there is no doubt that population levels of the bluebird have been reduced, it is possible that many people are looking for the species in habitats that no longer fulfill the bird's requirements. If this is true, then the apparent decline of the species might be greater than the actual decline.

On numerous occasions, we have observed many bluebirds in or near areas that had recently been clearcut. In coastal South Carolina, sightings in clearcut areas have been so frequent that we have recommended such habitat above all others to people interested in observing this species. Bluebird use of clearcut areas has been observed by others (Conner and Adkisson 1974; George Hurst, pers. comm. 1978).

In response to a concern for the bluebird population and in an effort to generate interest in the practical management of a nonconsumptive resource, a bluebird nest-box project was developed in late 1977. A portion of the Buist Tract, a 40,000-acre area of International Paper Company land in Horry County, S.C. was selected as the project site.

DESCRIPTION OF AREA

Four predominant soil series occurring on the Buist Tract are the Echaws, Leon, Lyn Haven, and Johnston series. Like most coastal soils, these are moderately to very poorly drained, phosphorus deficient, and acid to strongly acid. The site index for Loblolly Pine (*Pinus taeda*) ranges from 85 for the Echaws series to less than 60 for the Johnston series.

Approximately 42% of the area involved in the project is composed of Carolina Bays. Another 38% consists of Loblolly and Slash Pine (*P. elliotii*) plantations. Natural pine, pine-hardwood, and hardwood stands occupy approximately 18% of the area while only about 2% is not forested.

Age of the forest stands varies from 0 to 36+ years. Mean DBH (average stem diameter, outside bark, at a point 4.5 feet above ground) ranged from 4 to 8 inches while mean total height ranged from 20 to 50 feet. Merchantable basal area (a measure of stand density) ranged from 10 to 70 square feet per acre.

Some typical plant species found in the Carolina Bays include Pond Pine (*P. serotina*), Pond Cypress (*Taxodium ascendens*), Cyrilla (*Cyrilla racemiflora*),

Fetterbush (*Lyonia lucida*), and Bamboo (*Smilax laurifolia*). Common understory plants outside the bay areas include Bitter Gallberry (*Ilex glabra*), Red Bay (*Persea borbonia*), Sweet Bay (*Magnolia virginiana*), Blueberry (*Vaccinium* sp.), and Red Maple (*Acer rubrum*).

In the spring of 1976, wildfire destroyed the timber on a large portion of the Buist Tract. As a result, the tract has been placed under an intensive forest management plan involving site preparation and planting.

METHODS

Seventeen nest boxes (Fig. 1) were constructed of weathered Bald Cypress (*T. distichum*) at a cost of \$3.50 each, including labor and materials. Nails were used in assembling the boxes. Untreated wooden fence posts, approximately 6 inches in diameter and 10 feet high, were used to support the boxes. The cost of each post was \$1.50. Untreated posts were considerably cheaper than treated ones, thus allowing the project to proceed at a low initial cost. In addition, we wanted to eliminate even the slightest possibility of nest-box rejection resulting from the use of treated posts. Flexible aluminum offset plates (23 x 35 inches) were purchased at a local newspaper for 20¢ each. The sheets, used as predator guards, were wrapped around each post with the longer dimension parallel to the post and nailed in place approximately 1 foot below the bottom of the nest box. The absence of nest-box ventilation holes did not appear to be an important factor in this project as no active nests were abandoned during the study period. However, ventilation may have proved to be an important factor had the boxes been in a more exposed environment.

On 2 February 1978 nest boxes were placed at 17 different locations on the Buist. Site locations were relatively open pine stands that had been recently burned by prescribed fire. One box was selected in a 10-year-old pine plantation.

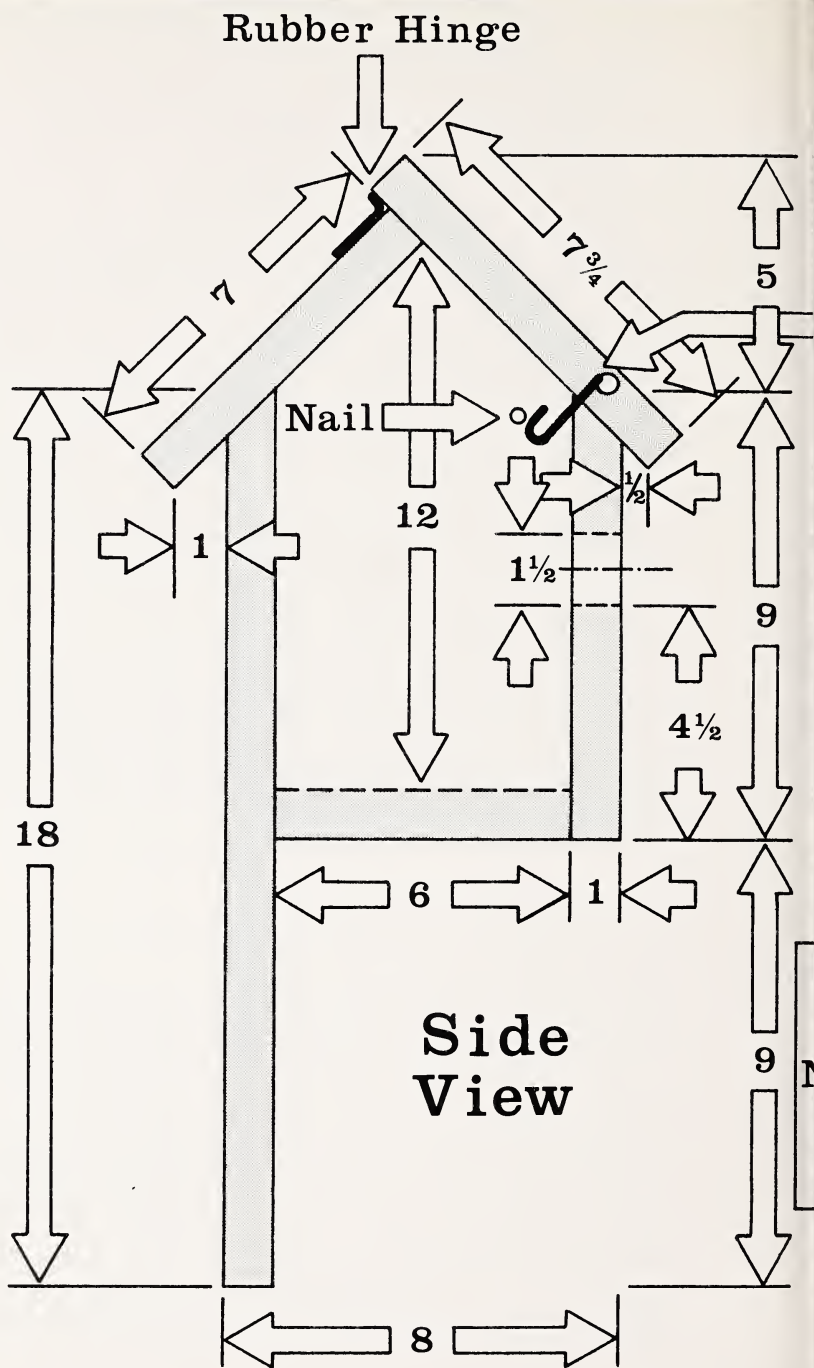
Boxes were erected 10 to 115 feet from the forest edge and usually faced an open area that had been recently clearcut and site prepared. Boxes were placed as near as 528 feet apart. Posthole diggers were used to excavate the soil and holes were dug so as to position the bottom of the box from 5 to 6.5 feet above the ground line. Sites having a dead or living shrub within 10 feet of the entrance hole were erected to provide a perch for the birds.

RESULTS AND DISCUSSION

On 17 March 1978, the bluebird houses were checked but showed no sign of nesting activity. Most of the boxes were rechecked on 16 April and 7 of 13 boxes observed contained nests, some with eggs in them. One of the first boxes to have a nest and full clutch of eggs was located in the previously mentioned young pine plantation. Five juvenile birds fledged from this box on 4 May. Nesting activity seemed greatest from mid-April to late June. By 28 July, nesting activity was negligible.

Of the 17 boxes erected, 11 (65%) were occupied by Eastern Bluebirds, 1 (6%) was occupied by Carolina Wrens (*Thryothorus ludovicianus*), 2 (12%) had evidence of apparent nesting attempts, and 3 (18%) were not occupied at all. Six boxes produced two broods of bluebirds each with five boxes producing one brood each. Clutch size ranged from three to five eggs (average four). We estimate the number of fledglings to have been approximately 68. Nestling mortality occurred in only one instance and appeared to be an insignificant factor when considering overall survivability of the juvenile birds.

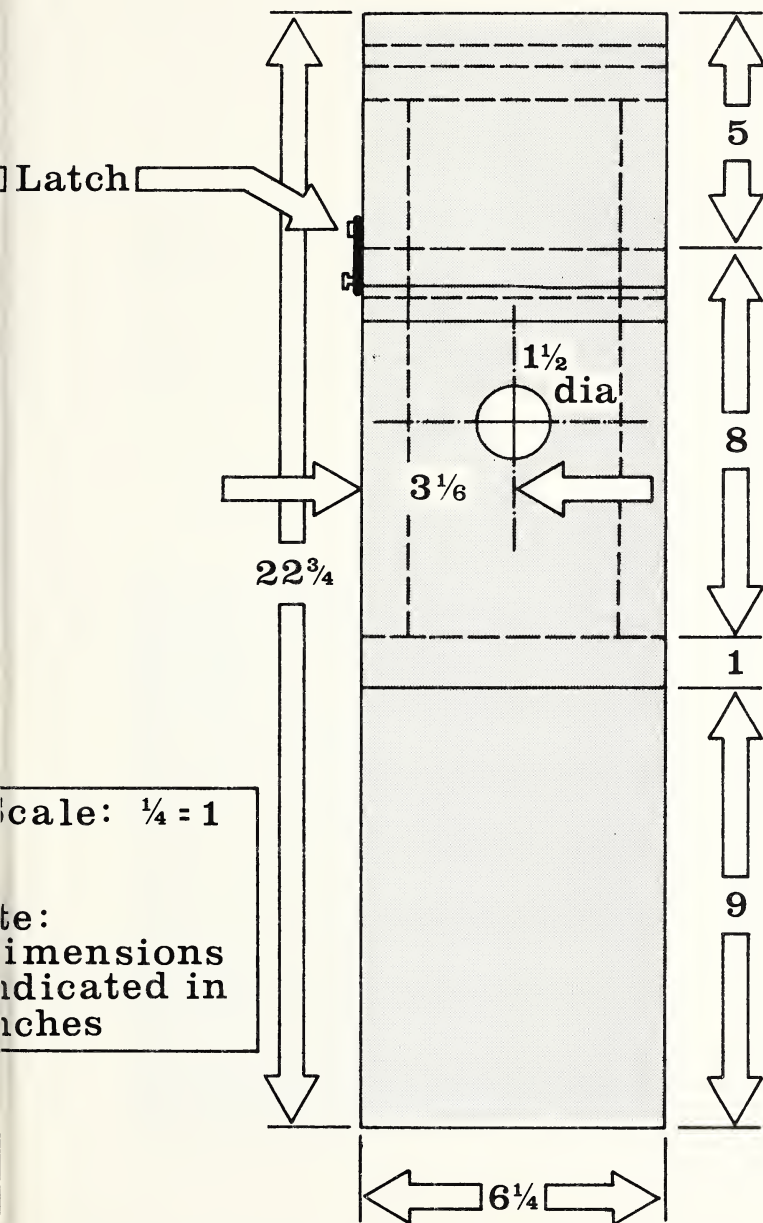
In approximately 50% of the boxes that were occupied and eventually fledged young, we removed the first nesting material. The remaining 50% had the first nest left in the box. Boxes that were not cleaned out after the first nesting did not seem to deter renesting attempts as new nests were constructed on top of the old ones.



BLUEBIRD

Figure 1. Plan for the bluebird nest

Front View

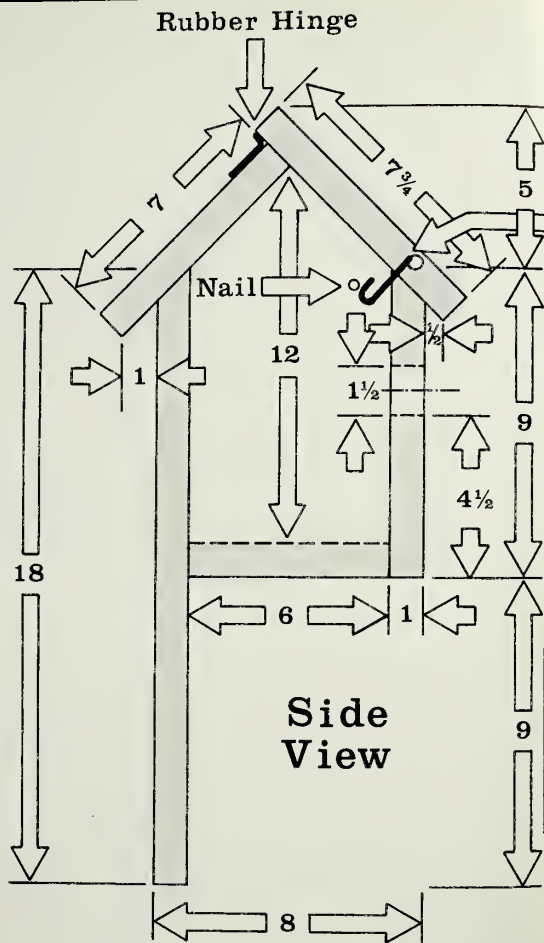


Scale: $\frac{1}{4} = 1$

Note:
Dimensions
indicated in
inches

HOUSE

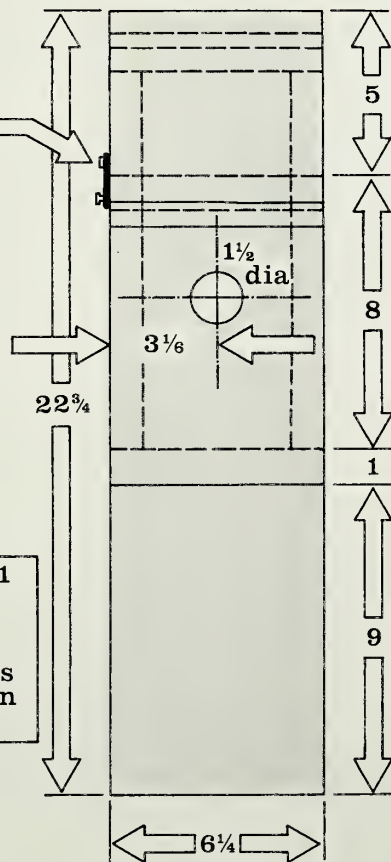
C. NELSON
OCT-78



Scale: $\frac{1}{4} = 1$

Note:
Dimensions
indicated in
inches

Front View



BLUEBIRD HOUSE

C. NELSON
OCT-70

Figure 1. Plan for the bluebird nest box used in the Buist Tract project.

In considering renesting attempts, there is some question as to whether the same adults used the same boxes for renesting. Although our observations were limited, we found a box that produced two separate broods and had five white eggs in each clutch. Because the occurrence of white eggs is somewhat unusual (Harrison 1975) we believe the same bird used the box for two consecutive nestings.

Of the three boxes that were never occupied and two that had apparent nesting attempts, each had similar surrounding vegetative characteristics. The presence of a large living shrub approximately 10 feet from the entrance of the box seemed to be a deterrent to nesting. On the other hand, similar areas having a dead shrub near the entrance seemed perfectly acceptable to nesting pairs. The dead shrubs were used quite frequently for perching before the adults entered the nest box. Indications are that a relatively clean understory enhances an area's attractiveness for nest-site selection. When erecting bird houses in any location, care should be taken to place them far enough away from taller vegetation to restrict predator access.

Because numerous factors influence the acceptable minimum distance between nesting pairs, it is not possible to make a broad statement concerning the proximity of one box to another. However, for this particular project, a minimum distance of 528 feet between boxes appeared at least in one instance to have caused adverse interactions between nesting pairs.

In order to get the most use from each box, it appears that boxes should be cleaned out as soon after the second nesting as possible. Nest material should again be removed in late winter or early spring of the following year in preparation for the new nesting season.

The occasional opening of a nest box for very brief periods seems to cause little disturbance to the nesting pair. Noise, however, should be kept to a minimum. Particular care should be taken when observing young birds in the nest in order to prevent them from becoming over excited and flying out of the nest prematurely.

While one would not typically think of a bluebird nest-box project as having any recognized hazards, some problems do exist. In order to avoid a severe case of "bird and heart in the throat disease," tap lightly on the side of the box before peering into the entrance hole. Wasps also present a problem in some areas as they find the underside of the hinged box lid an attractive nest construction site. While wasp nests did not seem to bother the nesting birds, they were certainly a deterrent to the human element.

CONCLUSION

The Eastern Bluebird, like many other animal species, responded well to management. In regard to the erection of artificial nest structures in suitable habitat, the response is practically immediate. Such projects are relatively inexpensive and require little effort. They can, however, yield many positive returns.

Numerous plans and materials are available from which bluebird houses may be constructed. Excellent opportunities exist for involving local ornithological associations, garden clubs, schools, outdoor photographers, and other groups or individuals in the establishment and monitoring of such projects.

ACKNOWLEDGMENTS

Thanks are due the supervisory staff of Region I for allowing this project's funding and completion. Special thanks are extended to B.R. Gaskins and Gregory Hardee for their concern and effort during the initial stages of the project. Sincere appreciation is expressed to Jim Buckner, who provided the stimulus to complete this paper and to George Hurst of Mississippi State University, who provided helpful comments on bluebird use of clearcut areas.

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International Paper Company, Georgetown, S.C. 29440, 26 January 1979. [Senior author's present address is Anderson-Tully Company, Vicksburg, Mississippi 39180.]

ADDENDUM

Since initiation of the bluebird nest-box project in early 1978, nine boxes have to date been destroyed by Black Bears (*Ursus americanus*). This bear depredation became prevalent during the second year of study and has continued, thus preventing any acceptable comparison from being made between data for the first and subsequent years. Depredation typically occurred during the nesting season after the eggs were laid and/or the young had hatched. Damage to the boxes (Fig. 2) ranged from broken lids, fronts, and sides to complete removal of the box from the post. Regardless of the type of damage, claw and tooth marks were prominent on both the boxes and support posts. Two additional boxes disappeared from the original point of placement, but it is not known for certain whether bears or people were responsible for their removal.



Figure 2. The bluebird nest box at left shows the signs of bear depredation: front torn open, nest raked out on ground, and tooth and claw marks on the metal predator guard. (Photo by Willie H. Tomlinson Jr.)

General Field Notes

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Swainson's Hawk in North Carolina

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22 January 1980

About 0930 on 9 December 1979, while traveling south on the US 17 bypass of Vanceboro, Craven County, N.C., just south of the railroad crossing, we saw a hawk crossing the road ahead of us. At first sight the slight upturn of the wings suggested a Marsh Hawk, but the larger size and flight pattern were not right for that species. We were able to pull off the road and get out of the car to observe the bird for 2 minutes or more. We studied the bird carefully in good light and at all angles as it circled around and over us as low as 15 and 20 feet. Field marks were studied with and without binoculars (7X). The bird then soared off into the bright sun.

We were able to view the almost uniform grayish-brown dorsal portion of the body and wings, and the upper tail was noted to have a slightly lighter colored rump patch. From below, the wing linings and body were almost white. There was an almost "wing window" look in the primaries. The light buffy tail was very lightly barred and had a darker and wider terminal band. The dark brown chest band was conspicuous, giving the bird a hooded look. It was a case of "just like the book" except the tail bands were not quite as dark as the soaring light-phase Swainson's Hawk in *Birds of North America* (Robbins, Bruun, Zim, and Singer, Golden Press, New York, 1966, p. 81). Having seen hundreds of these hawks in various plumages in the spring in Texas and many more crossing the plains during the summer, we have no doubt that this bird was a Swainson's Hawk.

[NOTE: See the report of the North Carolina Records Committee elsewhere in this issue.—DSL]

A Probable Winter Record of Swainson's Hawk from Tyrrell County, N.C., with Comments on a Fall 1965 Sighting from the Outer Banks

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6 February 1980

As Potter traveled east on U.S. 64 about 1500 on 1 February 1980, a pale buteo flew from a snow-covered plowed field just east of Columbia, Tyrrell County, N.C. The bird took flight from the ground approximately 35 m ahead of the car and 4 m off

the right shoulder of the road. Gaining altitude without flapping its wings, the hawk flew across the road, passing directly in front of the observer at 7 to 10 m, or perhaps even closer as the car slowly moved beneath the flight path. The bird fully exposed its underparts to view in bright sunlight for at least 3 seconds, and Potter immediately realized the bird was unlike any buteo commonly found in the Carolinas.

During the brief period of observation, Potter noted that the bird's lower breast, belly, and tibias were immaculately white and that across the upper breast was a solid band of rich reddish brown. The brown extended up the side of the neck and joined the darker nape and crown. The rusty breast and neck framed a large, oval, unstreaked white patch on the throat and chin. No streaking or barring was detected on the breast band, which was slightly darker posteriorly and sharply delineated from the white underparts. The under-wing and -tail surfaces appeared predominantly whitish. The flight feathers of the wing were narrowly tipped and barred with varying shades of dusky gray. Wing linings were almost pure white, having no conspicuous wrist marks. There was no noticeable contrast between the wing linings and the flight feathers, but bright sunlight reflected off the snow may have reduced the appearance of contrast to the unaided eye. The tail was narrowly tipped with a subterminal band of dark gray or faded black. This band was not as wide as in a typical adult Red-shouldered Hawk (*Buteo lineatus*). The remainder of the underside of the tail was mostly hidden by the legs and feet that extended almost to the anterior edge of the dark band. The brevity of the observation made it impossible to determine whether or not the rest of the tail was faintly banded.

Unfortunately, traffic conditions and snow piled on the shoulders of the road prevented stopping or turning around immediately. The bird could not be found upon return to the site about 15 minutes later. The authors believe that the bird was a light-phase adult Swainson's Hawk (*B. swainsoni*). We are aware that other buteos in aberrant plumages can be mistaken for *B. swainsoni*, which is well known for its variability in plumage.

There is an earlier sight record of the species from North Carolina for which details have not been presented previously. Sykes (1967) recorded a Swainson's Hawk in Dare County on 11 October 1965 during a study of landbird migration on the Outer Banks. At 1450 the bird was found perched on the top of a fence post at the intersection of NC 12 and the road to the Oregon Inlet Coast Guard Station on the northern tip of Pea Island. The hawk was studied at 9 m with 7 x 35 binoculars under clear sky conditions. When the bird was at rest, heavy brownish streaks formed an almost solid band across the breast and faded gradually into the belly. The throat and belly were white. The head was streaked with brown, and the back was rather uniform dark brown. The dorsal surface of the tail was brownish-gray with four or five narrow dark bands and a narrow white terminal band. It was not noted whether or not the last tail band was wider than the others. The bird appeared slender for a buteo. The tips of the folded wings extended almost to the tip of the tail. When the hawk flushed, it flew away from the observer a short distance at a gradual climb to gain altitude, at which time a buffy or whitish patch was seen in the rump area. The hawk then soared overhead for a short time before it moved off and disappeared. While the bird was soaring, the tips of the wings appeared distinctly pointed and the broad wings formed a dihedral as in the Marsh Hawk (*Circus cyaneus*). When viewed overhead, the light wing linings and the belly contrasted with the dark primaries and secondaries, and the underside of the tail appeared rather light. This individual was obviously an immature Swainson's Hawk.

Wind directions and speeds (in knots) at Pea Island for the day of the sighting and the preceding 3 days are as follows: 8 October—WSW 16 at 0800, SW 17 at 1600; 9 October—W 10 at 0800, SSW 13 at 1600; 10 October—NW 11 at 0800, NW 15 at 1600; and 11 October—NW 7 at 0800, ESE 5 at 1600. According to US. Department of Commerce Daily Weather Maps for 7 through 11 October 1965, wind directions

from the western edge of the Great Plains east to the Atlantic Coast were from the west, northwest, and southwest during the 5-day period. Thus, weather conditions were favorable for this western raptor to reach the Outer Banks of North Carolina in early October.

The breeding range of the Swainson's Hawk is throughout most of western North America from central Alaska south to northern Mexico and eastward to Manitoba, western Minnesota, Iowa, Nebraska, Kansas, Oklahoma, and western Texas. The species winters chiefly in Argentina and is of casual occurrence in eastern North America: Ontario, Quebec, Michigan, Maine, Vermont, Massachusetts, New York, Pennsylvania, New Jersey, Kentucky, West Virginia, and Alabama (Pough 1951, AOU 1957, Peterson 1964, Brown and Amadon 1968, Audubon Field Notes 1968-1970, American Birds 1971-1979). In Florida it is a regular spring and fall migrant in small numbers, and a few, mostly immatures, winter annually in the southern part of the state (Sprunt 1954 and 1963, Cunningham 1961, Abramson 1961, Ogden 1969, Audubon Field Notes 1955-1970, American Birds 1971-1979). Thus, based on the abundance of the Swainson's Hawk, its broad distribution, highly migratory habits, and casual occurrence in eastern North America, it is not particularly surprising for individuals of this species to be found in North Carolina, although a winter record is certainly rather extraordinary.

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- [NOTE: See the report of the North Carolina Records Committee elsewhere in this issue.—DSL]

Lesser Black-backed and Glaucous Gulls at Huntington Beach State Park, S.C.

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2 February 1979

On 27 January 1979, in connection with a field trip at the Pawleys Island, S.C., Carolina Bird Club meeting, several dozen birders observed an adult Lesser Black-backed Gull (*Larus fuscus*) and an immature Glaucous Gull (*L. hyperboreus*) at

Huntington Beach State Park. Although there are approximately 10 previous South Carolina records for the Glaucous Gull (see Chat 42:12-13), there is only one previously published record of the Lesser Black-backed Gull for the state (Forsythe, Chat 44:42).

About midmorning, I was scanning a group of gulls on the beach at the northern tip of the park where I noticed a dark-backed gull essentially similar in size to nearby Herring Gulls (*L. argentatus*). I mentioned the possibility of Lesser Black-backed Gull to Jim Orgain and Bob Lewis, who were nearby, and we each carefully studied the bird through our scopes. Within a matter of seconds we had positively identified the gull as a Lesser. During the next 30 to 45 minutes, the gull was observed in detail by over 25 birders, as close as perhaps 150 m and through scopes reaching 130X magnification. The most obvious field marks were the slaty blackish back and the overall size, slightly smaller than the Herring Gulls. Actually, the mantle was black near the wing tips and slaty black elsewhere (as noted in flight), somewhat like the color and pattern of the Laughing Gull (*L. atricilla*): the Great Black-backed Gull (*L. marinus*) has a mantle that is entirely black. The yellow bill, with some dark coloring at the tip, was slightly thinner than that of the Herring Gull. Another outstanding mark was the dusky brown streaking on the face and especially on the nape, a distinguishing mark from the Great Black-backed, which has an essentially unmarked white head in adult winter plumage. Supposedly the best field mark for the lesser is the yellow legs, as opposed to the flesh-colored legs of the Great. Even though the Lesser did have pale yellowish legs, this color was seen clearly only at close range, and well after the bird had been identified by the group. The gull was not seen in the afternoon, despite a considerable search by other birders, and no photographs were taken.

The Glaucous Gull was first noted by Bob Lewis, only several minutes after I had spotted the Lesser Black-backed. The Glaucous was seen in flight with a large number of the commoner gulls, and it was quickly picked out by its overall buffy white plumage. This gull, apparently a first-year individual, was also studied carefully over the remainder of the morning by all of the birders in the group. The Great Black-backed Gull size, whitish color with white primaries, and flesh-colored bill with a black tip were easily noted. At one point during the morning both of the rare gulls rested on the same sandbar in Murrells Inlet, with several hundred other gulls, though the two were never in the same field of vision through the scope. The Glaucous was seen as closely as 100 m, and it was also seen in the afternoon on the beach along the southern portion of the park.

[NOTE: The Lesser Black-backed Gull has also been reported from Georgia (Oriole 43:32). Full details for a bird observed at Charleston in January and February 1979 (Am. Birds 33:273, Lesser Squawk 30(6):7 and 30(8):6) have not been published; consequently, this species remains on the South Carolina hypothetical list.—JRH]

Lesser Black-backed Gull in the Carolinas

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27 May 1980

The Lesser Black-backed Gull (*Larus fuscus*), a breeding bird of the British Isles, Scandinavia, and northern Russia, has long been known as an unusual winter visitor to the northeastern United States. Reports of its occurrence in the Carolinas have accumulated in the past decade, but few detailed reports have appeared in print. This paper reports two sightings by the author and discusses field marks not normally emphasized. Only adult-plumaged birds will be discussed.

On the morning of 23 December 1979 I was working the west end of Shackleford Banks near Beaufort, Carteret County, N.C., as part of the Morehead City Christmas

Bird Count. The sky was overcast; there was little wind. Several hundred gulls and terns were resting on four sandbars roughly 300 yards offshore. While scanning the flocks with my 80X Questar telescope, I discovered a small dark-mantled gull and walked to within 200 yards of it.

The bird was smaller and slimmer than most of the surrounding Herring Gulls (*L. argentatus*), some of which may have been approximately the same size, and larger than all the nearby Ring-billed Gulls (*L. delawarensis*). The bird's yellow bill seemed considerably more slender than that of a Herring Gull. The head plumage was white except for a few small brownish streaks on the nape. The legs were a faint washed-out yellow, paler than those of Ring-billed Gulls. The dorsal color, at first glance black, was slightly paler than that of the Great Black-backed Gulls (*L. marinus*). I did not notice any obvious contrast between the overall mantle color and the wing-tip color. The bird did not take flight while I was present.

I identified the bird as a Lesser Black-backed Gull. There are at least seven previous reports of this species for North Carolina and at least three for South Carolina. All Carolina reports are from mid-September to early April. The first North Carolina record was by Micou Browne on the Bodie Island Christmas Bird Count of 30 December 1968 (Potter 1970). In South Carolina, the species was first sighted 16 September 1976 in Charleston County (Forsythe 1980).

On the afternoon of 2 February 1980, Allen Bryan and I examined a large flock of gulls and terns resting next to the big tidal pond at Hatteras Point, Dare County, N.C. The sky was clear and the sun was behind us. After several hours of searching I discovered a Lesser Black-backed Gull and pointed it out to Bryan.

The bird's mantle was a deep slate color, closer to black than gray, but probably not as dark as that of the Beaufort bird. Its bill was compact and stubby, not long and slender. The leg color, seen clearly only by Bryan, was yellow. The white head was finely and delicately streaked with gray on the crown, nape, and around the eye, giving an almost cowl-like appearance. This streaking was much more extensive than on the Beaufort bird.

The definitive work on *L. fuscus* and *L. argentatus* in northern Europe was done in the late 1960s by E.K. Barth of Norway. His papers, in particular "The Circumpolar Systematics of *Larus argentatus* and *Larus fuscus* ..." (Barth 1968), are required reading for anyone wishing to appreciate the complexity of the systematics of the gulls of the northern Holarctic. The superspecies Barth studied includes the Herring, Glaucous-winged, Thayer's, and Iceland Gulls of North America as well as the Lesser Black-backed, Herring, Iceland, Thayer's, and yellow-legged Herring Gulls of the Palearctic. A less technical and far more accessible discussion can be found in Fisher and Peterson (1969, p. 93-95).

In his extensive specimen studies, Barth identified three races of Lesser Black-backed Gulls: *L. f. graellsii*, of Iceland and Great Britain; *L. f. fuscus*, of northern Norway, Finland, and Russia; and *L. f. intermedius*, of western Norway, southwestern Sweden, and Denmark. The races are all smaller than Herring Gulls. They have dark mantles and yellowish legs. From the field worker's point of view they are best distinguished by mantle color, size, leg color, and bill shape. *L. f. graellsii* are the palest, having a gray mantle only a little darker than that of a Herring Gull. Their bills are proportionately similar to those of Herring Gulls. They are the heaviest of the three races, weighing only a little less than Herring Gulls. *L. f. fuscus* are the darkest; indeed, according to Barth their mantles are actually darker than Great Black-backed's and sometimes show a brownish hue. They are the lightest in weight and have long slender bills. Their legs are the brightest yellow of the three races. *L. f. intermedius* is intermediate in weight and mantle color, being typically a dark slate gray, lighter than or equal to the shade of a Great Black-backed. Many individuals have pale yellow legs. Their bills are as slender as those of *L. f. fuscus*. In the winter, adults develop brownish or grayish streaks on the head and nape, reminiscent of Ring-

billed Gulls. The streaking is more intense in *L. f. graellsii* than in the other two races. Leg color may fade to whitish in the winter. Occasionally, orange-legged birds are seen (Barnes 1953).

The bird pictured in the field guide of Bruun (1970, p. 145) is *L. f. graellsii*. The photograph in the *Audubon Society Field Guide to North American Birds* (Bull and Farrand 1977, p. 73) is of either *L. f. fuscus* or *L. f. intermedius*. The birds pictured on page 93 in Fisher and Peterson (1969) are either dark *L. f. graellsii* or light *L. f. intermedius*. The bird on page 95 is *L. f. fuscus*.

Barth reports that *L. f. intermedius* and *L. f. graellsii* are common birds. Significantly for North American observers, these two races have similar migration routes, southwest and south from their breeding grounds. This is in marked contrast to *L. f. fuscus*, which leaves Finland and Norway in a south and southeasterly direction. Thus, *L. f. fuscus* seems unlikely to appear in eastern North America, but the other two races are likely candidates for north Atlantic strays.

P.J. Grant (1980), in a comprehensive article on gull identification, accepts Barth's classification of three races for the Lesser Black-backed Gull. The following quote from that article is relevant here:

There is a good deal of intergradation in mantle colour in some breeding colonies in Scandinavia (between *fuscus* and *intermedius*) and western Europe (between *intermedius* and *graellsii*), and in west European and west African wintering populations, nowhere more obvious than in Britain, where a proportion of individuals apparently match *fuscus* in their blackness. While typical examples of the three subspecies are readily distinguishable in the field (especially the distinctively pale-backed *graellsii*), fairly close-range observation, with good light (preferably not full sunlight) from behind the observer, is usually necessary for a correct assessment of colour tones.

In summary, it seems reasonable to conclude that a wide range in darkness of mantle color can be expected in North American Lesser Black-backed Gulls. Although field identification of subspecies is risky, bird students should be aware of the species' variations in mantle color, bill shape, and head streaking. Comparison of the birds I saw at Beaufort and Hatteras suggests that more than one race may be found along the western North Atlantic coast even though only one, *L. f. graellsii*, is currently recognized as occurring in North America (Binford 1978).

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Immature Lesser Black-backed Gull in Carteret County, N.C.

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28 May 1980

At 0745 on 26 January 1980 the authors and Ken Knapp located a flock of approximately 500 gulls on a sand flat between Pivers and Radio Islands, near Morehead City, Carteret County, N.C. The birds were seen in excellent light with scopes at a distance of approximately 150 m. LeGrand spotted an immature gull similar in plumage to an immature Great Black-backed Gull (*Larus marinus*) but felt that it was too small for that species. He alerted the others to the bird, mentioning the possibility of a Lesser Black-backed Gull (*L. fuscus*). Tove and Knapp agreed with LeGrand's first impression. The bird walked next to a group of Herring Gulls (*L. argentatus*). It was slightly smaller in body size than the Herring Gulls, but the solid black bill was noticeably shorter and thinner. Tove remarked that the bird suggested an Iceland Gull (*L. glaucoides*) in overall shape, noting particularly the very small bill, small head, and wing tips that extended well beyond the tail. The bird then walked beside an immature Great Black-backed Gull of similar plumage. It was several inches shorter in length than the Great Black-backed and was only one-half to two-thirds the bulk. At this point we referred to European field guides and were convinced that the small bird was a Lesser Black-backed Gull.

At rest the bird had a scaly, sooty brown back and wings (pale margins on the feathers) that were blacker than those of first-winter Herring Gulls. It had whitish underparts and a whitish head lightly streaked with brown. There was also a dark smudge surrounding the eye. The light head and neck contrasted strongly with the dark back. The color of the legs was flesh, but somewhat paler than those of similar-plumaged Great Black-backed Gulls. In flight the bird showed a whitish rump and upper tail and a broad dark tail band. In all respects our bird matched the illustration of the immature Lesser Black-backed Gull in Tuck and Heinzel (1978, A Field Guide to the Seabirds of Britain and the World, p. 211), except for the solid black bill. Although the illustration is labeled "first winter," the consensus of field guides checked is that first-winter Lessers are virtually indistinguishable from first-winter Herrings and that the plumage exhibited by our bird was that of a second-winter Lesser. However, the soft parts (bill and legs) resembled those of first-winter Lessers. Will Russell (pers. comm.) has informed us that the description of our bird was that of a first-winter individual, based on his extensive experience with gulls of the North Atlantic. He indicated that the brownish plumage of the Lesser Black-backed Gull, the plumage that most guides list as first winter, is actually the juvenal plumage. This plumage, closely resembling that of similar-aged Herring Gulls, is lost in the late summer or fall, when the contrast between the whitish head and neck and the slaty brown mantle becomes noticeable.

Although there are at least 10 sight records of adult Lesser Black-backed Gulls in North Carolina, all from tidewater areas, this is surprisingly the first report of an immature. We believe that the scarcity of sightings of immatures is partly because the major American field guides do not adequately cover the species, and partly because most observers are not alert to the fact that many immature Lessers are identifiable. We suggest that bird students refer to European field guides to assist them in the identification of all species of gulls on the coast of the Carolinas.

[NOTE: With the acceptance of the Lewis and LeGrand notes on the Lesser Black-backed Gull, the North Carolina Records Committee added the species to the state bird list on the basis of publication of three detailed sight records.—DSL]

Alder Flycatcher Colony in Watauga County, N.C.

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8 July 1980

A note on the Alder Flycatcher (*Empidonax alnorum*) reported the status of this bird in the southern Appalachians during the breeding season (Chat 43:35-36). Since that report, the first Tennessee and the southernmost nesting record for this species has been established (Migrant 50:34-36). This note is to record yet another probable nesting site for the Alder Flycatcher in the southern Appalachians.

On 7 June 1979, Eloise Potter, Harry LeGrand, and I found two singing Alder Flycatchers in a mountain bog near the southwestern border of Watauga County, N.C. The bog lies between Beech Mountain and Rocky Knob at an elevation of approximately 4600 feet.

On 6 and 7 June 1980, I returned to the Beech Creek bog and found five singing Alder Flycatchers. They appeared to be on territory because they were fairly evenly dispersed throughout the bog area. Their "pip" call notes and "fee-beer" songs were clearly heard at all hours of the day. Although I remained in the area more than 24 hours, I found no positive evidence of nesting.

BRIEFS FOR THE FILES

HARRY E. LeGRAND JR.

(All dates fall and winter 1979-80; CBC = Christmas Bird Count)

RED-NECKED GREBE: One was studied carefully on the ocean at Pea Island, N.C., on 23 February by Tom and Libbus Haggerty.

EARED GREBE: One seen on Lake Pinehurst in Moore County, N.C., from 19 December to 16 February, was one of the few inland records for the state. It was found by Tom Howard and was later seen by Jay Carter et al. Mark Galizio observed another at Orton Plantation, Brunswick County, N.C., on 1 December.

AUDUBON'S SHEARWATER: One in "partly fresh" condition was found dead at Fort Macon State Park, N.C., on 18 December by John Fussell III.

WHITE PELICAN: One was seen at a pond in Statesville, N.C., from 17 November to 16 December by Sam Cathey et al. Other single individuals were observed at Fort Fisher, New Hanover County, N.C., during most of January and February (Robert Needham et al.), and at Huntington Beach State Park, S.C., on 19 January (Stan and Mary Alford).

GREAT CORMORANT: Jackson Abbott saw three adults at Kiawah Island, S.C., on 8 March, and an adult and an immature there on 9 March.

GANNET: Blizzard conditions in early March were responsible for pushing at least 75 birds into Bogue Sound, N.C., on 2 March, as noted by John Fussell III and Mike Tove.

ANHINGA: A pair was rather far inland in winter at Santee refuge on Lake Marion,

- S.C., where Douglas McNair saw them on 19 January and 8 February.
- GREEN HERON:** In Carteret County, N.C., John Fussell III saw individuals near Morehead City on 8 January and at Beaufort on 18 January; Ken Knapp, Harry LeGrand, and Mike Tove saw two birds at Davis on 26 January.
- CATTLE EGRET:** In addition to individuals seen this winter along the North Carolina coast in Currituck, Dare, Hyde, and Carteret Counties, one was unusual on the Durham, N.C., CBC on 16 December, as noted by Mike Schultz.
- GREAT EGRET:** A roost of 140 at Lake Marion, S.C., on 19 January was reported by Douglas McNair.
- AMERICAN BITTERN:** Many individuals were present in central North Carolina in early winter, as evidenced by CBC reports. Singles were found at Raleigh on 15 December and Durham on 16 December, two were at Jordan Reservoir on the New Hope count on 30 December, and three were seen at Roanoke Rapids on 1 January.
- WOOD STORK:** One was north of the usual post-breeding range at an impoundment along the Pamlico-Beaufort County line near Hobucken, N.C., on 29 August (Barry Thomas).
- GLOSSY IBIS:** Two were seen on 3 February at Pea Island by Bob Lewis et al., and Tom Reeves noted nine near Charleston, S.C., at Magnolia Gardens on 23 February.
- WHITE IBIS:** Seven birds were at Pea Island on the CBC on 27 December, and three were seen there on 16 February by Brian Keelan.
- WHISTLING SWAN:** Libba Watson observed three at Lake Pinehurst, N.C., on 31 December, and one was noted at nearby Hog Island on 5 January, fide Jay Carter.
- CANADA GOOSE:** A count of 104 between Chapel Hill and Jordan Reservoir, N.C., was rare for the area, noted by Steve Graves and Bill Wagner on 4 January.
- BRANT:** One seen by Douglas McNair on 7-8 December at Pee Dee refuge in Anson County, N.C., was the first state record away from the tidewater zone. Another was rare at Fort Fisher on 6 January, observed by John Fussell III and Kevin Hints.
- WHITE-FRONTED GOOSE:** An excellent Carolina count was the 16 adults noted by Douglas McNair at the Santee refuge on 8 February. McNair saw another adult at the Pee Dee refuge from 25 January to 10 February, and one was present for much of March at a farm just west of Morehead City, fide John Fussell III.
- SNOW GOOSE:** An individual was seen at Lake Surf, near Vass, N.C., on 22 December and again on 11 February (Tom Howard).
- FULVOUS WHISTLING-DUCK:** One was rare on the McClellanville, S.C., CBC on 16 December, as observed by Stephen Whitcomb.
- BLUE-WINGED TEAL:** One seen at Fayetteville, N.C., by P.J. Crutchfield on 12 February was probably a very early migrant.
- EUROPEAN WIGEON:** Martha Hoggard saw a male at Pea Island on 27 December.
- NORTHERN SHOVELER:** Douglas McNair had good inland counts of 115 at Santee refuge (8 February) and 19 at Pee Dee refuge (1 February); and two were notable at Lake Pinehurst on 15 January and 2 February, as seen by Tom Howard.
- CANVASBACK:** Allen Bryan reported that 40+ spent the winter at Quaker Creek Reservoir in Alamance County, N.C., with a peak of 67 on 16 February.
- GREATER SCAUP:** This species is rare inland in winter; thus, noteworthy were four at Lake Murray, S.C., on 1 December and one there on 30 January (Douglas

- McNair), and singles seen near Raleigh on 13-15 December (Bob Lewis) and 20 February (Steve Graves).
- OLDSQUAW:** Four seen by Douglas McNair were a good find at Lake Murray on 1 December.
- HARLEQUIN DUCK:** Two immature males were present in the Fort Macon area from 18 December to late February, with one seen as late as 2 March. Found by John Fussell III and Bill Moffitt, the birds were studied by dozens of other people. Another male was shot by a hunter at Rattan Bay in northeastern Carteret County in late November (fide John Fussell III), and a female was noted by Bob Lewis, Eloise Potter, and Allen Bryan at Oregon Inlet, N.C., on 3 February.
- COMMON EIDER:** Mike Tove saw a female on the Cape Lookout, N.C., CBC on 22 December.
- KING EIDER:** A female was photographed by Mike Tove at the harbor in Ocracoke, N.C., on 24 December, and Tove and Kevin Hintsä saw two the following day at Cape Hatteras, N.C. One of the latter two birds was seen on 29 December by Bob Lewis.
- COMMON MERGANSER:** Tom Howard observed two at Lake Surf on 11 February, and four were seen on 29 February. Bob Lewis and Allen Bryan noted a pair at Beaverdam Reservoir in northern Wake County, N.C., on 4 February.
- RED-BREASTED MERGANSER:** An excellent inland count was the 120 birds found at Lake Moultrie, S.C., on 20 January by Douglas McNair.
- BROAD-WINGED HAWK:** A well-described immature was seen by Eric Paisley and Bob Wolk on the Winston-Salem, N.C., CBC on 29 December.
- ROUGH-LEGGED HAWK:** Jackson Abbott observed a light-phase individual at the entrance to Kiawah Island, S.C., on 7 March.
- GOLDEN EAGLE:** A rare find was one noted by Evelyn Dabbs and party on the Litchfield-Pawleys Island, S.C., CBC on 27 December.
- BALD EAGLE:** Two individuals were seen during the winter at Lake Wheeler, near Raleigh, fide R.J. Hader; and Douglas McNair saw eagles at Lakes Murray, Moultrie, and Wateree in South Carolina during the winter.
- MARSH HAWK:** This species was locally abundant at the marshes at Jordan Reservoir this winter, with many observers reporting 20 in a single day.
- OSPREY:** One was seen on the Morehead City CBC on 23 December, fide John Fussell III, and what was probably the same bird was noted there on 26 January by John Fussell II.
- VIRGINIA RAIL:** Individuals were heard in response to taped calls on the Raleigh CBC on 15 December (R.J. Hader) and on the Roanoke Rapids CBC on 1 January (Kevin Hintsä).
- BLACK RAIL:** John Fussell III used a tape to call up three birds on the Morehead City CBC on 23 December and another at Wanchese on the Bodie-Pea Island CBC on 28 December.
- AMERICAN COOT:** Three thousand coots on Lake Surf on 22 December, as seen by Tom Howard and John Wright, was an outstanding inland count.
- AMERICAN AVOCET:** A flock of 30 was very unusual at the home of John Fussell III on the Bogue Sound waterfront near Morehead City on 3 March.
- AMERICAN GOLDEN PLOVER:** An early migrant was noted by Jackson Abbott at Kiawah Island on 9 March.
- MARBLED GODWIT:** Harry LeGrand and Mike Tove observed seven on 26 January at the ferry landing at Cedar Island, N.C., rather far "inland" for this

strictly coastal species in winter.

WHIMBREL: One was rare on the Cape Lookout, N.C., CBC on 22 December as seen by Skip Prange.

LONG-BILLED CURLEW: John Andre and Bud Pollock saw an individual with Whimbrels on the McClellanville, S.C., CBC on 16 December.

GREATER YELLOWLEGS: One was seen at Fayetteville, N.C., on 6 January and again on 20 February by Henry and Douglas Rankin. Five at Jordan Reservoir on 19 January, as noted by Jim and Elizabeth Pullman, were rare for the piedmont in winter.

LESSER YELLOWLEGS: Noteworthy were 14 tallied by Angelo Capparella and Robin Carter at Jordan Reservoir on 30 December.

SOLITARY SANDPIPER: A very rare winter record for the Carolinas was an individual seen by Perry Nugent and Teddy Muckenfuss on the McClellanville CBC on 16 December.

LONG-BILLED DOWITCHER: Six were noteworthy at the Cedar Island, N.C., ferry landing on 26 January (Harry LeGrand, Mike Tove), as were three at Santee refuge on 19 January and one on 22 February (Douglas McNair).

RED KNOT: Larry Crawford and Bill Moffitt counted 100 knots at Atlantic Beach, N.C., on 28 January, a high total for the winter season.

PECTORAL SANDPIPER: Very rare in winter were one seen on the Raleigh CBC on 15 December (Bob Lewis et al.) and three at Shackleford Banks on the Cape Lookout CBC on 22 December (Allen Bryan).

DUNLIN: Four were notable on 20 December at Jordan Reservoir, as seen by Lance Peacock.

LEAST SANDPIPER: Inland birds were reported this winter from Santee refuge and Clemson in South Carolina as well as from Jordan Reservoir and Raleigh in North Carolina.

POMARINE JAEGER: Mike Tove, Kevin Hints, and Allen Bryan observed an individual at Pea Island on 26 December.

PARASITIC JAEGER: Single birds were seen in North Carolina at Elmore's Inlet in Pender County on 30 November (Mark Galizio) and at Cape Lookout on 1 December (John Fussell III).

GLAUCOUS GULL: A very rare report of an adult was made by Brian Keelan et al. at Cape Hatteras point on 17 February. Three immatures were noted in Carteret County by John Fussell III et al.: a second-winter bird at Beaufort from 19 January to 29 February, another second-winter bird at Cape Lookout on 23 February, and a first-winter bird at Beaufort on 17 February.

LESSER BLACK-BACKED GULL: There were seven reports this winter from coastal North Carolina, representing at least four individuals. Adults were detected at Bodie Island, at Cape Hatteras point, and at three sites in the Beaufort Inlet area, and an immature was observed at Beaufort. General Field Notes on several of these individuals will be published in this journal, as will one or two notes on Iceland Gulls in the Beaufort area during the same period.

RING-BILLED GULL: Douglas McNair had peak counts of 1500 at Lake Moultrie on 20 January, 1750 at Lake Murray on 30 January, and 2400 at Lake Marion on 8 February.

BLACK-HEADED GULL: Single adults were excellent finds at Oregon Inlet on 21 December (Steve Graves) and at Kiawah Island on 5 March (Jackson Abbott).

LAUGHING GULL: Rare inland in winter were two seen by Anne Waters at a CBC on the Savannah River Plant, S.C., on 15 December.

BONAPARTE'S GULL: Excellent inland counts made by Douglas McNair, all in South Carolina, were 150 at Lake Moultrie on 20 January, 350 at Lake Murray on 30 January, 550 at Lake Wateree on 28 January, and 1300 at Lake Marion on 8 February.

BLACK-LEGGED KITTIWAKE: An adult and an immature were seen from the Hatteras-Ocracoke ferry on 17 February by Brian Keelan et al. Four birds were seen in Carteret County: an adult at Shackleford Banks on the Morehead City CBC on 23 December (Bob Lewis), an oiled adult captured on the shore at Atlantic Beach on 19 January (John Fussell III et al.), an adult in a harbor at Beaufort on 24 January (Harry LeGrand, Mike Tove, John Fussell III), and an immature at Cape Lookout on 26 January (Larry Crawford et al.).

GULL-BILLED TERN: One seen in flight by Jay Shuler over the edge of a salt marsh on the McClellanville CBC on 16 December was a rare winter record.

FORSTER'S TERN: One seen by Sidney Gauthreaux in late January at Clemson was a first winter record for that area, and Douglas McNair had excellent totals of 450 at Lake Moultrie on 20 January and 450 to 550 at Lake Marion on 19 January and 8 February.

LONG-EARED OWL: Eric Paisley and Adrian Tuckley saw an injured and weakened bird on a trash pile along NC 49 in northern Stanly County, N.C., on 30 January. They captured the owl, which had one foot missing, but released it with the belief that it was able to fend for itself.

RUBY-THROATED HUMMINGBIRD: A male was at a feeder all winter in Mount Pleasant, S.C., as seen by Elsie Gieseke and Ed and Sandra Conradi. Hummingbirds of uncertain identity were seen in Carteret County at Beaufort in early December (Stanley Potter), near Gloucester on 6 December (Carolyn Hoss), at Harkers Island on 22 December (Dana Carter), and at Morehead City on 14 January (John Fussell II).

RED-CKOADED WOODPECKER: A rare piedmont record was the discovery of ten cavity trees along Weaver Creek just east of Jordan Reservoir in Chatham County. Lance Peacock noted the cavities on 30 December, and he saw an individual there on 24 February. Two were seen by John Fussell III and Jeannie Wilson near Atlantic, N.C., also on 24 February.

(Continued on Page 66)

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OUR COVER—J. Foster Scott, of the Dare County Tourist Bureau, Manteo, N.C., photographed an immature Bridled Tern in the flooded campground at Buxton on 7 September 1979, following the passage of Hurricane David. The picture first appeared in *The Coastland Times*.

BIRD SIGHTINGS ASSOCIATED WITH HURRICANE DAVID

JOHN O. FUSSELL III and ALICE ALLEN-GRIMES

Late in the afternoon of 4 September 1979, northward-moving Hurricane David slammed into the coast near Savannah, Georgia. That day, a Sooty Tern was sighted at Charleston, S.C., and two Magnificent Frigatebirds were seen soaring over Wrightsville Beach, N.C. During the next few days, observers at coastal localities and inland reservoirs and ponds witnessed the most significant avian "fallout" from a tropical storm or hurricane recorded in the Carolinas in this century. The purpose of this paper is to summarize all obviously hurricane-related observations in the Carolinas and to discuss briefly the notable patterns and significance of these records. (For an overview of David's fallout along the entire East Coast, see *American Birds* 34:133-160.)

HISTORY OF HURRICANE DAVID

On 25 August, in the tropical Atlantic about 2000 miles E of the Lesser Antilles (11°N, 36°W), a depression formed on an easterly wave and David was born. (See Figure 1 for path of David.) Moving westwardly, David strengthened rapidly. On 26 August, the storm had reached tropical storm intensity, and by the next day, it was already a full-fledged hurricane. Continuing WNW through the West Indies, David reached its greatest intensity—winds as high as 150 mph—and became extremely deadly and destructive when it crashed into the island of Hispaniola on 31 August. After passing over Hispaniola's mountains, David weakened to minimal hurricane strength and moved toward the United States, skirting Florida's east coast 3 September and finally going ashore near Savannah on the fourth.

David was barely of hurricane strength when it made this final landfall, and soon weakened to tropical storm status as it tracked NNE across the Carolinas 4 and 5 September (Fig. 2). Although the storm was theoretically a hurricane in lower South Carolina, no full hurricane-force winds (i.e. *sustained* winds of 74+ mph) were reported in the state. Nevertheless, David's presence was still evident across much of the Carolinas. There were very high tides and locally moderate to severe beach erosion along the South Carolina coast and extreme southern North Carolina coast. Rainfall was very heavy at some places, and there were a few scattered tornadoes. Relative to bird movement, the most significant effect of the storm was the strong easterly to southerly winds off the Atlantic (Table 1). It is noteworthy that, in general, inland points close to the storm's center experienced lower wind speeds than adjacent coastal points did. Thus, in South Carolina, Columbia's peak gust was 43 mph, but at Charleston it was 56 mph; in North Carolina, Greensboro, just east of the storm's center, had gusts to 36 mph, but Cape Hatteras, over 250 miles eastward, had gusts to 43 mph. Disparities between sustained wind speeds probably were even greater.

EXTENT OF OBSERVATIONS

Locations of all storm-related observations are shown in Figure 2. Although some of these reports represent incidental findings, it was apparent from the contents of the reports that the Lake Hartwell and Charleston areas of South Carolina and the Southport, Wilmington, Morehead City, and four inland areas of North Carolina, were all visited during and after peak storm activity by persons searching for storm waifs. At the three North Carolina localities where large numbers of subtropical terns were seen (Southport, Wilmington, and Morehead City), observers commendably recorded some interesting details of movements and activities of those birds. In addition to the local birders, observers from the North Carolina State Museum of Natural History were in



Fig. 1. Path of Hurricane David, 28 August through 6 September 1979.

the Wrightsville Beach-Fort Fisher area 6 September and the Morehead City-Atlantic Beach area 6 and 7 September to watch movements of birds and to collect storm casualties.

From August to November of 1979, Richard Rowlett conducted almost daily day-long censuses of marine mammals and birds seen from different U.S. Coast Guard cutters patrolling offshore waters from Maryland to Florida, and some of these censuses were made off the North Carolina coast just before and after David. Rowlett has kindly agreed to our publishing some of his data (Table 2) in conjunction with this paper.

Unfortunately we lack important negative information about Hurricane David observations. What areas were not visited by bird students? What areas were checked but produced no sightings of unusual birds? We ask these questions mostly in regard to North Carolina's Outer Banks and the reservoirs close to the storm's track, especially in South Carolina.

OBSERVATIONS

Included in this paper are records that logically appear to be due to David's presence. These extend from 4 September, when David's direct effects were first felt, to 9 September on land (excluding dead birds) and 10 September offshore. Interesting observations on pelagic trips off Cape Hatteras 2 September and Morehead City 3 September (Chat 44:45,49) may have been indirectly related to David. (Steady SE winds at that time may have been due to interaction between David to the south and Bermuda high pressure.)

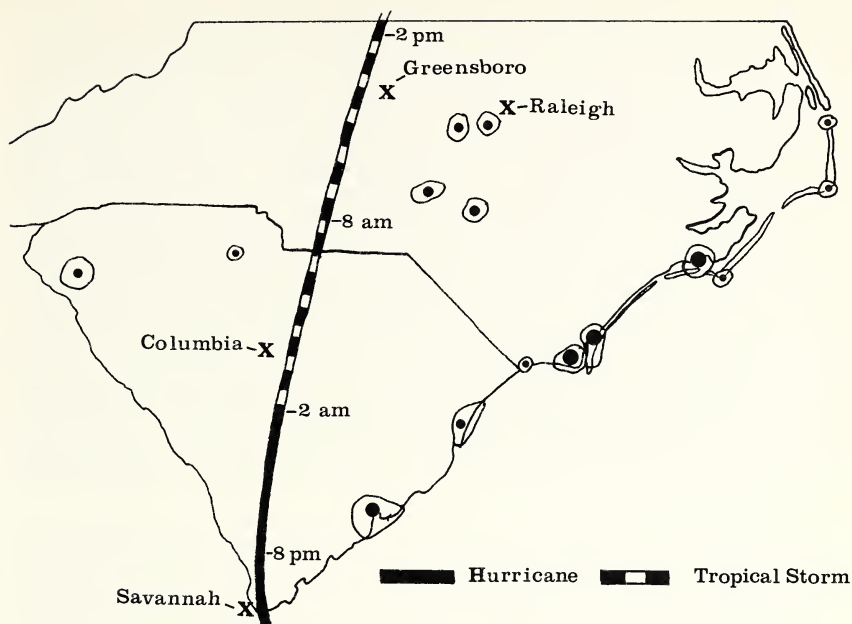


Fig. 2. Hurricane/Tropical Storm David moved across the Carolinas 4 and 5 September 1979. Encircled dots indicate the areas where storm-related bird sightings were reported. Dot size indicates the relative number of birds involved.

TABLE 1. Wind velocities (in miles per hour) at three U.S. Weather Service Offices in coastal Carolina during and immediately following the passage of Hurricane David, 4 through 6 September 1979. These are *sustained* wind speeds; gusts were up to 10 to 15 mph greater. The Wilmington and Charleston weather stations are located inland; wind speeds on adjacent beaches were undoubtedly greater than the official readings. (Data courtesy of individual weather offices and U.S. National Climatic Center, Asheville, N.C.)

EDT	4 Sept.			5 Sept.				6 Sept.			
	7AM	1PM	7PM	1AM	7AM	1PM	7PM	1AM	7AM	1PM	7PM
Cape Hatteras	SSE 5	SW 9	ENE 14	SSE 23	SSE 23	S 21	S 25	SSW 28	SW 28	SW 20	SW 16
Wilmington	ESE 4	NE 9	ESE 12	ESE 21	SE 16	S 18	S 19	S 19	SW 14	S 9	SSW 8
Charleston	NE 16	E 28	ESE 31	S 33	SSW 24	SSW 22	SSW 17	SSW 15	S 10	SSW 12	SSW 7

Pelagic Species

AUDUBON'S SHEARWATER. Three were onshore: one at Fort Moultrie, S.C., 5 September, Nugent, and two at Yaupon Beach, N.C., 5 September, Goodwin and Moffett.

WILSON'S STORM-PETREL. One was found far inland (and far west of the storm's track) at Lake Hartwell, near Clemson, S.C., 5 September, LeGrand, Gauthreaux, and Hamel. It was studied well to rule out the possibility of an even rarer storm-petrel being overlooked. This is apparently the only noncoastal record of a Procellariiform species in South Carolina. Much less unusual were two coastal reports, both 5 September: one at Yaupon Beach, Goodwin and Moffett, and another at Wrightsville Beach, Hardwick.

WHITE-TAILED TROPICBIRD. An adult was found at Seaforth Lake in the lakebed of uncompleted Jordan Reservoir in Chatham County, N.C., 6 September, by Payne and the Wagners, who studied it thoroughly for 30 minutes. It departed soon afterward. This is the first inland record of a live bird in North Carolina; however, there are two previous inland records for South Carolina, both of which were associated with tropical disturbances (Sprunt and Chamberlain 1970).

MAGNIFICENT FRIGATEBIRD. Two were over Wrightsville beach, 4 September, Robert Needham, and one was at Kiawah Island, S.C., 5 September, Burns.

NORTHERN PHALAROPE. Four were in a rain pool on the golf course at Caswell Beach, N.C., 5 September, Goodwin and Moffett, and 35 on 7 September and 15 on 9 September on a spoil pond at Brant Island near Fort Macon, N.C., Fussell et al.

SABINE'S GULL. An adult was seen in the harbor at Southport, N.C., 5 September, by Goodwin and Moffett. It was still in breeding plumage, and the combination of

TABLE 2. Selected observations from Rowlett's offshore censuses prior to the passage of Hurricane David (24 and 28 August) and shortly thereafter (8 through 10 September).

	165-mile transect off Cape Lookout to off Cape Fear	143-mile transect off Cape Fear to off Cape Lookout, in Gulf Stream	77-mile transect SE to SW of Cape Hatteras, in Gulf Stream	116-mile transect off Core Banks	104-mile transect off Cape Lookout to Diamond Shoals
	24 Aug.	28 Aug.	8 Sept.	9 Sept.	10 Sept.
Common Tern	3	—	158	143	138
Arctic Tern	—	—	17	20	30
Roseate Tern	—	—	8	2	10
white <i>Sterna</i> sp.	—	—	85	855	143
Sooty Tern (ad.)	25	132	222	575	13
Sooty Tern (im.)	10	27	23	93	2
Bridled Tern	29	27	45	16	5
Black Tern	34	—	151	220	96
Brown Noddy Tern	—	1	—	3	—

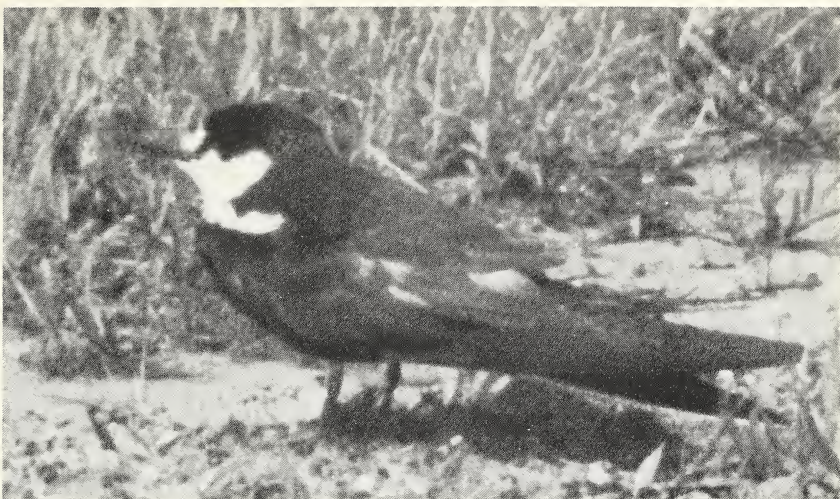


Fig. 3. The adult Sooty Tern (above) was photographed by Bob Coffee at Pea Island, N.C., on 5 September 1979. The subadult Bridled Tern (below) was photographed by Bill Faver at the west end of Holden Beach, N.C., about 0900 on 5 September 1979 while winds were still gusting to 40 mph. The latter bird was standing in a road with assorted shorebirds and appeared to be exhausted. In flight the light collar of the Bridled Tern is a foolproof field mark separating this species from the Sooty Tern. However, the collar normally does not show in a sitting bird, and age variations in face patterns make it difficult to distinguish between the two species on this basis alone. The intensity of black on the back is variable and difficult to determine even under the best field conditions. The bill of the Bridled Tern is always shorter and appears deeper than that of the Sooty Tern. This is by far the best means of identifying sitting birds.

dark head and unique wing pattern easily ruled out all other species. This is the third state record.

ARCTIC TERN. Off the North Carolina coast, 8 to 10 September, after David, Rowlett found a large number of "white *Sterna*" terns (Table 2). The total number of Arctic Terns is astounding, far outnumbering all previous records for the state (Lee and Booth 1979). These birds were almost certainly southbound migrants pulled westward toward the United States by David's circulation. However, David's circulation didn't extend more than 400 to 500 miles off our coast; thus, the birds apparently originated far west of the species' primary fall migration route over the eastern Atlantic (Lockley 1974).

ROSEATE TERN. This species is primarily a rare transient in the Carolinas, and the total number of individuals, 20, that Rowlett (Table 2) saw off the North Carolina coast 8 to 10 September, is surprising. These birds, like the Arctic Terns, apparently represent southbound migrants concentrated by David's onshore winds.

SOOTY TERN. The most notable feature of David's fallout in terms of sheer numbers was the abundance of Sooty Terns (and likewise Bridled Terns, see below) at several localities. Never before has this species been recorded in such numbers in the Carolinas.

Far inland, one adult and one immature were at Lake Hartwell, near Clemson, 5 September, LeGrand; and in the same area on 5 September an unknown person found an exhausted adult (specimen to Clemson University), fide LeGrand. Also, an exhausted adult was found in a parking lot at Chester, S.C., 6 September, fide Cely.

Coastal records of live birds were: one (age not given) at Charleston, 4 September, Compton; three adults at Fort Moultrie, 5 September, Nugent; two (adult and immature) at Litchfield Beach, S.C., no date given, Probst; an exhausted immature at Huntington Beach State Park, S.C., no date given, fide McIlwain; 110+ in the Southport area, 5 and 6 September, Goodwin and Moffett; 100 resting on the rock jetty south of Fort Fisher, 5 September, Mark Galizio, and an adult was collected at the same site, 6 September, Mobley and Platania (NCSM 7323); 80+ at Wrightsville Beach, 5 and 6 September, Parnell et al.; 90+ (12+ immatures) at Morehead City, N.C., 5 and 6 September, Fussell et al.; and an exhausted adult (Fig. 3) was photographed by Coffee at Pea Island, N.C., 5 September.

Several dead individuals were found during peak storm activity and afterward (some still being found in winter 1979-1980): one near Georgetown, S.C., Christy; one at Isle of Palms, S.C., Huff; six at Mount Pleasant, S.C., Huff and Farrar; one at Litchfield Beach, Probst; at least three in the Wrightsville Beach-Carolina Beach area, Parnell et al. (including NCSM 7353 and 7354); five (three adults, two immatures) in the Morehead City area, Fussell (including NCSM 7324). [Also, a freshly road-killed adult was found at the Alligator River bridge, Dare County, N.C., 23 September, by Lee and Platania (NCSM 7322). The date and condition of the bird are surprising; the bird did not die during David's peak activity in the area. Possibly it was associated with the circulation of Hurricane Frederic, which passed northward just west of the Appalachians 13 and 14 September and which also produced strong SE winds on the North Carolina coast.]

Some of the detailed Sooty Tern observations are noteworthy. At the North Carolina areas where large numbers were seen, relatively few birds were over the ocean; most were over inlets and estuaries. On the north-south coastline at Wrightsville Beach, Parnell, on 5 September, found most birds to be milling around, apparently with no dominant movement. However, along the east-west coastlines just west of Southport and at Morehead City, Goodwin and Moffett and Fussell observed strong eastward flights the same day. All observers who mentioned immatures noted that, in most cases, each was flying with a single adult, and Probst saw an adult feeding an immature. In

addition to dead birds that were examined, many exhausted birds were closely approached, but no one mentioned seeing banded individuals. This is notable because thousands of birds have been banded on the Dry Tortugas, about 70 miles W of Key West, Florida; occasionally, bands are found on hurricane-displaced birds on the Gulf Coast.

The Sooty Terns headed offshore quickly after winds began to abate. No apparently healthy individual was seen on the South Carolina coast after 5 September and none on the North Carolina coast after midday on the sixth. Many birds apparently lingered off the coast for a few days (Table 2). Off the southern Outer Banks of North Carolina, Rowlett counted **245** and **668** individuals 8 and 9 September. However, many of these could have been David-transported birds from farther north—such as New York and New England—returning southward.

Rowlett also found many Sooty Terns off the lower North Carolina coast several days before David's arrival (Table 2). Prior to his observations, there were only 20 published records, totaling 25 to 30 individuals, of Sooty Terns in North Carolina offshore waters (Lee, pers. comm.). It may be significant that Rowlett's pre-hurricane birds contained a greater percentage of immatures than the post-hurricane birds did.

BRIDLED TERN. This was also a "big news" species, especially in southeastern North Carolina, where large numbers were seen. These numbers are all the more remarkable in that the species had never been recorded alive on land in North Carolina before David. There are only two previous onshore records of dead Bridled Terns in the state (Chat 37:23,24; Am. Birds 26:48).

No Bridled Terns were found inland. Coastal reports, all of live birds, were: two adults at Fort Moultrie, 5 September, Nugent; an injured adult captured near Georgetown, 5 September, Christy; one subadult (Fig. 3) photographed by Faver at Holden Beach, N.C., 5 September; **50+** in the Southport-Long Beach area, 5 and 6 September, Goodwin and Moffett; **120+** in the Wrightsville Beach area, 5 and 6 September, Parnell et al.; three (two adults, one immature) in the Morehead City area, 6 September, Fussell et al.; and one immature photographed at Cape Hatteras by Scott, 7 September (see cover photo). No dead Bridled Terns were reported during David or afterward. (Adult Bridled and Sooty Terns are very similar in appearance, and during the storm conditions of strong winds, driving mist and salt spray, and poor light, individuals often could not be positively identified. In the Southport and Wrightsville Beach areas, where many birds of both species were found, observers were tentative in their estimates of relative abundance.)

Bridled Terns also returned offshore quickly, no healthy individual being seen on morning of the sixth, virtually all closely approached birds at Southport and Wrightsville Beach were Bridled Terns; and at Morehead City, where all positively identified birds on the fifth were Sooties, three of eight closely approached birds were Bridleds. Two possible reasons for this are: (1) the stronger-flying (and possibly more nocturnal) Sooty Terns headed back to sea at night or earlier in the morning of the sixth; (2) a higher proportion of Bridled Terns on the fifth were not as evident (i.e. flying), being nested behind sand dunes and other windbreaks (Goodwin and Moffett reported this to be the case near Southport).

Bridled Terns are common late summer residents in Carolina offshore waters (Lee and Booth 1979); it is possible that the onshore David birds came from Carolina offshore waters as well as from waters farther south. Unfortunately, the storm reports contained almost no information on relative numbers of adult and immature Bridled Terns. Contrary to the case with Sooty Terns, Rowlett did not observe a dramatic peak in Bridled Tern numbers just after David (Table 2).

BROWN NODDY TERN. None were reported in South Carolina, but the total of **18** in North Carolina easily surpasses all previous records for the state: two at Sunset



Fig. 4. Although there is always a possibility that the Black Noddy Tern might occur in the Carolinas, all positively identified individuals thus far have been Brown Noddies. The minor differences in size and particularly in coloration between the two species of Noddy Terns known from North America make them difficult for even experienced observers to identify in the field. Documented sightings are welcome even when the observer cannot be positive whether the bird was a Black or Brown Noddy Tern; all Noddy Tern specimens should be deposited in the scientific collection of an appropriate museum or university department of zoology. (Photo by Claudia Sailor)

Beach, 5 September, were photographed (Fig. 4) by Sailor, fide McCoy; two at Long Beach, 5 September, Goodwin and Moffett; three (including NCSM 7352) at Wrightsville Beach, 5 September, Parnell et al.; at least 10 (three specimens, including NCSM 7319 and 7320) along east Bogue Banks, 5 and 6 September, Fussell et al.; and one dying bird (NCSM 7321) at Cape Lookout, 8 September, Chip Davis. These specimens are the first for North Carolina, and the species has been added to the state list.

All specimens and photographed birds were definitely Brown Noddy Terns, and it is likely that all sight records were of that species. However, the more southern Black Noddy (*Anous tenuirostris*) occurs sparingly north to the Dry Tortugas, and it should be considered as a possibility if one encounters a noddy in the Carolinas.

Like the other subtropical terns, the noddies returned offshore rapidly. No healthy individual was seen after 6 September on land. Off Core Banks, 9 September, Rowlett observed three Brown Noddies (Table 2). This was the same day he observed the peak number of Sooty Terns. His sighting of a noddy 28 August, a week before David, is interesting.

Other Noteworthy Sightings

Most records in this category are of inland observations of primarily coastal species that are generally or locally rare in inland areas. Although some of the species listed below normally occur as fall migrants, these particular sightings appear to have been storm-related.

WHITE PELICAN. Very rare inland, one was found at Jordan Reservoir in Chatham County, 6 September, by Payne and the Wagners. It remained until the next day and was seen by numerous observers.

DOUBLE-CRESTED CORMORANT. One at Lake Surf near Vass, N.C., 6 September, Howard and Thomas, was the first fall record locally.

AMERICAN GOLDEN PLOVER. One was at the Wilmington, N.C., airport, 7 September, R. Davis.

PECTORAL SANDPIPER. High counts in David's wake were: 25 near Charleston, 6 September, Nugent; 50 at Fort Moultrie, 5 September, Nugent; 55 at the Wilmington airport, 7 September, R. Davis.

LONG-BILLED DOWITCHER. One seen by R. Davis in a flooded field at Wrightsville Beach, 5 September, was early and locally uncommon.

SEMIPALMATED SANDPIPER. Eight at Lake Surf, 5 September, J. Carter, constitute a locally high count.

WESTERN SANDPIPER. Three at Lake Surf, 5 September, J. Carter, provided the second local record.

BUFF-BREASTED SANDPIPER. Unusual were single birds near Charleston, 6 September, Nugent, and at Long Beach, 9 September, R. Davis. The latter bird was on the beach with Sanderlings and Ruddy Turnstones.

SANDERLING. Rare were two at a farm pond near Raleigh, N.C., 6 September, Hader and Quay.

RING-BILLED GULL. Locally unusual were one near Fayetteville, N.C., 5 and 6 September, Crutchfield, and two at Lake Surf, 5 September, J. Carter.

FORSTER'S TERN. Notable were: eight at Lake Hartwell, near Clemson, 5 September, LeGrand; five on 5 September and two on 6 September at Fayetteville, Crutchfield; five on 6 September and two on 7 September at Jordan Reservoir, Lewis.

COMMON TERN. One was at Lake Hartwell near Clemson, 5 September, LeGrand. Noteworthy were 40 near Fayetteville, 5 September, Crutchfield, and 12 at Lake Surf, 5 September, J. Carter.

LEAST TERN. This species is rare in inland North Carolina. The following birds were well described: one at Pinehurst, N.C., 4 September, Howard; one near Fayetteville, 6 September, Crutchfield; one at Greenview Pond, near Raleigh, 6 or 7 September, Mulholland.

SANDWICH TERN. One found on Brant Island on 7 September (NCSM 7325) by Allen-Grimes was weakened and emaciated, apparently as a result of having been storm-driven for a long time. The following, all well described, are apparently the first inland records of the species in the Carolinas: an immature near Fayetteville, 5 September, Crutchfield; one at Lake Surf, 6 September, Howard et al.; one at Lake Wheeler near Raleigh, 7 September, Quay et al.

CASPIAN TERN. Locally unusual were two or three near Fayetteville, 5 September, Crutchfield, and one at Lake Surf, 5 September, J. Carter.

BLACK TERN. During David this species was unusually common, both inland and on the coast. High counts inland were: 12 at Lake Hartwell near Clemson, 5 September, LeGrand; 9+ near Fayetteville, 5 September, Crutchfield; 5 at Lake Surf, 5 and 6 September, Carter et al.; 10 at Jordan Reservoir, 6 September, Lewis; 20+ at Lake Wheeler near Raleigh, 6 September, Hader and Quay. From Southport north to Morehead City, observers found them to be common; the only count available was 200 in the Morehead City area, 5 September, Fussell.

PASSERINES. Just after passage of a cold front the morning of 8 September, Laurie and Nugent recorded some unusually high counts of migrant passerines at Fort Moultrie. These were probably indirectly related to David. Notable were 1000+ Eastern Kingbirds, 50 Red-eyed Vireos, 500 Yellow Warblers, 500 Common Yellowthroats, 1000+ Bobolinks, and 15 Northern Orioles.

CONCLUSIONS

David, the first hurricane or near-hurricane to strike the Carolinas in almost a decade, produced more unusual bird records in the Carolinas than any previous storm. Five reasons for this are: (1) One to two days before David's trip through the Carolinas, the eastern (or "right-hand") side of the storm (the section which, because of the storm's wind pattern, is more likely to pull birds into the storm's circulation) was located over the waters of the Bahamas and Gulf Stream edge off the southeastern United States. (2) With the center of the storm moving far inland, much of the Carolinas, including all coastal areas, were exposed to strong easterly winds off the Atlantic—an unusual situation because few hurricanes go ashore on the Georgia coast (Johnson et al. 1974). Up to 24 hours after the passage of the storm, winds on the coast had not gone any farther in their clockwise shift than southerly, thus still basically onshore and capable of keeping pelagic birds penned against the shore. Often winds would have gone around to a westerly direction more rapidly after the passage of such an intense low-pressure storm. (3) Along the North Carolina coast no hurricane warnings were issued; therefore, beach areas were accessible on 5 September. Most beach areas did not have rain that day, and the onshore winds, although strong enough to make birding difficult, were not severe enough to prevent it. (4) Recently constructed inland reservoirs provided additional concentration points for displaced coastal birds. (5) Finally, there are more bird watchers in the Carolinas than ever before; they are more adept at field identification and more alert to the possibility of finding rare birds brought in by storms.

Most of the unusual storm observations in the Carolinas fell into two major groups: pelagic species (especially subtropical terns), most of which are rarely seen from land in the Carolinas, and primarily coastal species that were displaced inland. Except for exhausted individuals, virtually no subtropical and pelagic species lingered much more than 24 hours after peak storm activity. Some of the coastal birds displaced inland lingered a little longer, but only about a day more on the average.

Of the pelagic species recorded, extremely few were Procellariiformes. Probably these birds are relatively well adapted to riding out storm conditions (Murphy 1936).¹ However, the subtropical terns, so common during David, may be more capable of fleeing from a storm, and it may be almost mandatory that they do so. Lockley (1974) cites the relative perviousness of the Sooty Tern's plumage to water.

Surprisingly, there were many more reports of subtropical terns from the North Carolina coast than the South Carolina coast. Possibly equally large numbers were also ashore in South Carolina late on the fourth and during the night. They could have moved offshore early on the fifth, for winds at Charleston had shifted to SSW by 7 AM. The several Sooty Tern specimens after the storm in South Carolina suggest this was the case. Another possibility is that there were at no time as many birds ashore in South Carolina as in North Carolina—that the mass of northward-moving terns was indeed staying ahead of the main part of the storm and encountered the more eastward projecting coastal North Carolina the night of 4-5 September. A similar situation farther north, where much larger numbers of Sooty Terns occurred on Long Island and in southern New England than along the coast from New Jersey to Virginia (Am. Birds 34:133-160), suggests this is a possibility. If another storm ever

¹On the other hand, the single most dramatic recorded effect of a hurricane on pelagic birds on the Carolina coast involved what were probably mostly or all storm-petrels (reported as Mother Carey's Chickens). Pearson (1899) described local reports of thousands of these birds left dead and dying along Shackleford Banks, N.C., by a severe hurricane in late August 1893. Through the Carolinas, that storm's track was similar to David's.

follows David's path through the Carolinas, it will be interesting to see whether or not the pattern is repeated.

Most of the unusual bird records associated with David in the Carolinas apparently do not represent birds that were trapped in the storm's eye. There is no doubt that such entrapment does occur (Murphy 1936; and see Audubon Field Notes 15:23 for an account of Sooty Terns in eye of Donna in coastal Maryland), but the distribution and timing of these Hurricane David records strongly suggest that the birds had come in directly from the adjacent ocean, not that they had been carried inland in the eye and were then in the process of returning to the coast. Actually, when David was located in inland North Carolina, it was probably too weak to have kept birds trapped within its eye. Probably the best place in the Carolinas to have found fallout from the storm's eye would have been reservoir areas in South Carolina along the storm's track, such as the northwest end of Lake Marion. However, we received no report from that locality.

FUTURE STORMS

David was not the last hurricane the Carolinas will see. There will be others, and there will be more storm-transported birds. Some things to consider before the next hurricane comes our way are:

Hurricanes are dangerous storms; they should be avoided. Actually, if you are in a hurricane, birding is impossible; strong winds and driving rain reduce visibility almost to zero. Coastal areas 300 miles or so "to the right" (NE in the Carolinas) of the storm and inland reservoir areas along the storm's track (especially if the storm goes ashore at night) are, all things considered, the best places to look for unusual birds. Just don't lose track of where the storm is. Also, remember that tropical systems as weak as depressions, even ones going ashore in the northeastern Gulf of Mexico, have produced numerous notable records of pelagic birds ashore in the Carolinas by causing prolonged easterly winds.

Be careful in the identification of any out-of-place bird. If the bird is dead or dying, make sure it is forwarded to a museum that maintains a bird collection. If collection is impossible, get a photograph. If neither is possible, make as detailed a description as possible. Do not rule out a species based on range; ideally, identifications should be made with a knowledge of and after consideration of all possibilities. See Lee and Booth (1979) for a summary of what occurs off our coast, and Shackleton and Stokes (1968) for drawings and range maps (not all are accurate but most are generally useful) of all species that occur in the Atlantic.

If sightings of unusual birds are made, record any pertinent data—weather, birds' behavior, relative abundance. Remember, hurricane-transport of birds is still not well understood, and detailed sight reports could provide important data on this phenomenon. In looking over the David observations and through the literature, we kept coming back to some basic questions: How does a bird respond when it encounters the periphery of a storm? Do different species respond differently? Does the bird's response vary along the different sides of the storm? Keep these questions in mind when another storm comes our way and watch for clues to the answers.

CONTRIBUTORS AND OTHER OBSERVERS

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CHRISTMAS BIRD COUNT DATES

Saturday, 20 December 1980 through Sunday, 4 January 1981

Backyard Birding

... with Gail T. Whitehurst

Predators

In the fall of 1977, an immature Red-shouldered Hawk took up residence in my neighborhood. I saw it often—flying low over treetops, perching in tall pines, or being pursued by Common Crows. Once I even came upon it drinking water from the creek in a wooded area. On 28 October 1977, in midmorning, I was taking a break and sitting in my backyard just watching birds and squirrels. Three very small Gray Squirrels, only recently out of the nest tree, were playing on the trunks and branches of trees as I watched. Suddenly, without any warning, the Red-shoulder swooped down from the top of a tall pine, plucked a little squirrel from the side of a tree and flew off in the direction of the creek. This all happened with the speed of lightning, so it seemed. As I sat astounded (probably with mouth open), the other squirrels began a hue and cry that went on for half an hour or so. I once saw a Red-tailed Hawk in a tree eating a grown Gray Squirrel, and a friend told me of seeing a Red-tail take an adult squirrel from its nest; but I rather figured the squirrels were too large for a Red-shoulder to handle. However, the baby squirrel was quite small and totally inexperienced in the ways of hiding and fighting. It was the element of surprise, however, that made the catch easy for the hawk. It may have been waiting in that tree for some time.

All of us expect hawks, eagles, falcons, and owls to prey on other creatures, including birds; but other birds are predators on birds, too. Everyone knows of incidences where Blue Jays have robbed a nest of eggs or nestlings, and almost everyone knows the same of Common and Fish Crows. I have seen crows steal an egg from an American Robin's nest and fly overhead with white eggs in their beaks while being chased and pecked by Common Grackles. But the grackle is a predator, too.

On 4 April 1976 I saw a Common Grackle kill and eat a fledgling House Sparrow. I was looking out my kitchen window and the sparrows were feeding on birdseed scattered in my driveway. As with a hawk, the attack was swift and sure. It ended a long-standing mystery. The grackle severed the head of the baby sparrow and flew off to eat it, leaving the rest of the body lying where he killed it. For some years off and on, in springtime, I would find the headless body of a House Sparrow lying about the yard and wondered what had killed in that manner. I have, from time to time, seen grackles chasing sparrows and warblers; and I have observed that smaller birds, such as Rufous-sided Towhees, Cardinals, and Robins become concerned and agitated if grackles are near their nests or newly fledged young.

It is difficult to remain objective when predation occurs in your backyard, for we tend to think of the birds we feed and water as our own special pets. However, their

lives, at best, are short. Natural predators have their own place in Nature's balancing. A pair of birds whose nest is robbed will start over again. In our neighborhood, the numbers of the various species remain fairly constant from one year to another, although the bird population explodes every summer.

The Value of Lists and Records

Many bird watchers keep lists of birds they have seen—in their own yards, on bird counts, on field trips. In fact, every so often an article on bird watching suggests this be done and gives examples as to how it should be done. Carolina Bird Club prints Daily Field Check Lists, which are handy in many ways.

I am a compulsive lister. I list birds daily, monthly, yearly. On every trip I take, birding or not, I note the birds I see along the way. I have lists for birds on the coast and in the mountains; I have a life list and a list of birds for North Carolina; I have a Wake County list, a list of birds seen in my yard and immediate vicinity, and a list of birds seen in the larger neighborhood area. I even have a "heard bird" list—birds I have not seen, but heard, such as the Olive-sided Flycatcher, Bachman's Sparrow, Whip-poor-will, and Chuck-will's-widow.

Then there are the index cards on which I record the yearly comings and goings—spring and fall arrivals and departures. I have a card for every bird I have ever seen, where first seen and when. Sounds like a big undertaking, doesn't it? It did not come about all at once, but has built up over a period of years.

Why list, you ask? What on earth can you do with all this information? Well, I'll tell you. These records have served to furnish quarterly reports for *American Birds*. They tell me when a particular species among the migrants is early, late, or on time. They enable me to spot increases or declines in the population of various species. In the 10 years or so I have kept records, I have observed a number of changes, some due to loss of woodland habitat in the area. Other changes, such as the decline of Ruby-crowned Kinglets and Yellow-rumped Warblers following two very hard winters, can be accounted for. Buy why, I ask, are there fewer Summer Tanagers and Yellow-throated Vireos than 5 or 6 years ago?

Memory alone is not reliable; names, dates, and places must be accurately recorded if one is to make any sort of contribution to research. When requests for information on a specific species of bird come my way, as they do once in a while, I can go to my records and lists to find the answers. As the seasons begin to change, I can flip through the index cards to see what bird I might expect to see on what date. If weather fronts are right, off I go to look for these birds. Many may pass through my yard, but others I can expect to find in other parts of my suburban neighborhood. The neighborhood includes a park, several creeks, and a lovely (to me) overgrown weedy spot where once there was a pond.

About the only kind of information on which I am weak is that relating to nests. For one thing, few birds actually nest in my yard. Predation by cats and crows is a problem. Because I find it most difficult to be objective about the birds I feed, I really do not enjoy the nesting season at all. Of course, I am aware of some nests, but I never go near them lest I lead a predator there. I make notes on the daily lists regarding nests, the young when they are fledged, and so forth. Many of the birds I feed come here for handouts to feed the young and often bring the fledglings here. In this manner I keep up somewhat with the progress of the nesting season. But there are times when it is pure bedlam as the adult birds compete for the food. It is an unnatural situation when birds of different species that normally stay out of each other's way come together. They become very aggressive, and I am not sure this is a good thing.



Roundtable

... with Louis C. Fink

Color-marked White Ibises

During the 1980 breeding season, nearly 300 juvenile White Ibises from the vicinity of Georgetown, S.C., were marked with orange wing tags. The tags are on one wing only, with black numbers and in some cases numbers in combination with letters. A report of any sightings would be useful and much appreciated *even if you cannot distinguish the number*. The purpose of the color marking is to determine the nature and extent of post-fledging dispersal. Louis C. Fink has already reported one marked bird from the Rocky Mount, N.C., area. If you see any orange-tagged White Ibises, please send the date, location, and tag number to PETER FREDERICK, Zoology Department, Wilson Hall 046-A, University of North Carolina, Chapel Hill, N.C. 27514.

Woodpeckers and Galls

The Winter 1979 Newsletter from the Cornell University Laboratory of Ornithology carries an item pertaining to the feeding habits of Downy Woodpeckers:

"At this time of year dead stalks of goldenrod stand erect in fields and along roadsides, enduring the winds and snows of winter. Many of the stems are marked by nearly spherical growths, called galls, which are formed by the activity of the goldenrod gall fly. An adult fly lays eggs in the terminal bud of the goldenrod. When the eggs hatch, the larvae tunnel into the soft pith of the stem, where they undergo a series of molts and then pupate. They emerge the following May as adults, which live for only a few days.

"At least one bird seems to take advantage of this source of food: Downy Woodpeckers have been observed pecking on goldenrod galls. Two biologists, Ronald Moeller and Mark Thogerson, studied predation on gall larvae by Downy Woodpeckers in Iowa. They noted that the woodpeckers worked much more frequently on galls inhabited by larvae than on empty ones. The birds probed with their bills in search of the escape tunnel, by which they gained access to the larvae. In selecting galls they showed a decided preference for those at greater heights from the ground, as well as those of larger diameter. Since size is directly correlated with occupancy by gall fly larvae, the birds probably select galls to probe on the basis of their size.

"The Downy Woodpecker preys upon these larvae, one of the many items in its diet, throughout the winter. The erect, stiff goldenrod stalks easily support the small bird as it exploits one of its few food sources other than trees and shrubbery."

(Continued on Page 120)

General Field Notes

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Two Records of the Prairie Falcon for Northwestern South Carolina

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23 February 1979

On 19 November 1978 I observed a Prairie Falcon (*Falco mexicanus*) near Townville, Anderson County, S.C. The falcon was first seen as it flew up from an extensive plowed field, and I easily noticed the sandy or buffy upperparts, typical falcon head markings, and crow size. It then began to circle overhead, perhaps 150 feet above me, and I observed the moderately streaked, pale underparts and very conspicuous blackish wing linings that strongly contrasted with the pale flight feathers. Although field guides indicate that the Prairie Falcon has blackish axillars that contrast with the remainder of the wings, the bird I saw had not only black axillars, but was mottled black from the axillars to the wrist. I have found no description of this plumage in any book, yet I suspect that this may be the usual wing pattern in immature birds. Another feature that aided in identification was the build of the bird in comparison to that of the Peregrine Falcon (*F. peregrinus*). The falcon seemed noticeably slimmer and more graceful in flight than the many Peregrines that I have seen. Also, I have never seen a Peregrine around large fields, and especially not on the ground.

Remarkably, nearly a year ago I observed another large falcon near Pendleton, Anderson County, S.C., under very similar circumstances. At the time I believed the bird to have been a Prairie Falcon, but I was not certain enough to publish the sighting. However, my experience with the 1978 bird, and several conversations with Mike Tove, who has considerable experience with falcons, have led me to the conclusion that the 1977 bird was also a Prairie Falcon. On 26 November 1977 I flushed a large falcon from an extensive open area of plowed fields and grain fields. The sandy-colored upperparts were noticeable as it arose from the field, and it briefly soared high overhead. There appeared to be no black axillars; instead, there was a conspicuous mottled, dark band along the posterior edge of the wing lining. Bob Lewis independently observed an "unidentifiable" falcon on the same day approximately 1 mile from my sighting. After exchanging notes about our sightings, we concluded that we had seen the same bird. As with the 1978 sighting, the slim build of the bird, its surprising behavior (on the ground in a plowed field), and my extensive experience with the Peregrine Falcon made me suspect that the hawk in question was a Prairie Falcon.

Some people may question the validity of all Prairie Falcon sightings in the eastern United States because the birds may represent escapes from falconers. There should be little reason, however, to question the validity of the two birds I have observed. Their behavior suggested wild birds, and the locations of both sightings are

visited frequently by bird students. Also, much of the Prairie Falcon population in the western United States is migratory, and the fall season is the time of year when extralimital records of western strays in the East are most frequent.

[NOTE: There are two previous sightings of the Prairie Falcon in South Carolina; however, neither record is supported by details published in an appropriate journal. E. von Siebold Dingle observed one on two separate occasions in a wooded area near Middleburg Plantation, Berkeley County, in early May of 1973 (Lesser Squawk 25(7): 2, 1973). This individual seemed fairly tame, and on both occasions it dove unsuccessfully from its perch in a tree at passing birds; it may have been an escape. Another Prairie Falcon was observed by Perry Nugent at the U.S.D.A. Vegetable Breeding Laboratory near Charleston on 7 October 1976 (Lesser Squawk 27(10): 3, 1976; Am. Birds 31(2): 164). The Laboratory property includes extensive, open fields and some wooded areas. Nugent noted both the black axillars and the facial markings characteristic of this species. There are three records of the Prairie Falcon in Georgia (Am. Birds 30(3): 706 and 32(2): 204), and one in North Carolina (Chat 33(1): 26). The species should be placed on the South Carolina hypothetical list, pending publication of the details of previous sightings.—JRH]

Probable Sight Record of an Ivory Gull in North Carolina

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On the morning of 29 January 1980, I followed through binoculars a gull as it flew over me and above the jetty at Fort Macon, Carteret County, N.C. The bird, which I believe was an immature Ivory Gull (*Pagophila eburnea*), disappeared from view as it neared the end of the jetty, and I suspect that it continued its same flight line to sea. Its graceful, unlabored, straight-line flight pattern attracted my attention. It was about 30 m away when first noticed, then flew directly over my head at a height of about 10-12 m. It remained at this height down the length of the jetty. From the underside I could see that the bird was small (Laughing Gull/Kittiwake size class) but it looked heavy breasted. Unfortunately, in spite of the large number and variety of gulls in the area, no others that could be used as a size reference came into binocular view. The bird's bill was small, short, and slender; the bill and legs were dark. As the bird moved away I was able to see for the first time its dorsal surface. The trailing edges of tail features, primaries, and secondaries had distinct dark spots. Apparently each spot was bordered with white, for they appeared separate and did not suggest bands. The angle of view did not provide sight of the top of the head or back, but the dorsal area was certainly light and had few if any distinct markings.

I am somewhat reluctant to report this sighting because North Carolina is significantly south of the Ivory Gull's expected winter range, because I am unable to document all field marks, and because of the extreme variability in gull plumages. Nevertheless, based on the field marks observed, all other local gull possibilities can be ruled out. These marks match classic textbook markings of an immature Ivory Gull. The following day I called John Fussell to alert him to the possibility of an Ivory Gull in the area, but he was unable to locate the bird. It is probably important to note that despite the relatively mild winter, several other gulls unusual for North Carolina were also sighted in the Beaufort-Morehead City area—Black-legged Kittiwakes (4), Lesser Black-backed Gull (2-4), apparent Iceland Gulls (2-3), and Glaucous Gull (3). Unusu-

ally large numbers of Bonaparte's Gulls were in the sheltered waters of the harbor and sound.

Normally the occurrence of Ivory Gulls south of Canada is unusual. There are records for wintering Ivory Gulls in Maine, New Hampshire, Massachusetts, Connecticut, and New York. The southernmost records known to me are for Atlantic City, New Jersey (30 January 1955, *Am. Birds* 9(3):244; 14 February 1966, *Am. Birds* 20(3):407). There is also one summer report for New Jersey (19 August 1955, *Am. Birds* 10(1):13). The only known nesting records for Ivory Gulls in North America are for Seymour Island, a small island north of Bathurst Island and southeastern Ellesmere Island, Baffin Bay area of Arctic Canada (Frisch and Morgan, *Canada Field-Naturalist* 93(2):173-174, 1979).

First North Carolina Record of a Band-tailed Pigeon

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About midafternoon on 10 June 1980 at the Fetterbush Overlook (mile marker 422) on the Blue Ridge Parkway, Haywood County, N.C., I observed a Band-tailed Pigeon (*Columba fasciata*). This represents the first record of this species for the state.

The bird was studied by four people, all of whom had previous experience with this bird in the western United States. They were, in addition to me, Jane Kittleman and Marjorie Hopkins of Dallas, Texas, and Martha Milburn of Hamison, Arkansas. Milburn arrived after we had studied and identified the bird. It was her first eastern bird-watching trip, and we were careful not to reveal our thoughts concerning the bird's identity. She quickly announced, "It's a Band-tailed Pigeon, but the book says only the Mourning Doves are here."

Originally I had stopped to look at what I assumed was a Broad-winged Hawk perched on a dead tree just below the east end of the overlook. Realizing that it was not a hawk, I wrote down the following description before checking the field guide:

Bill yellow, black-tipped, slightly hooked.

Gray all over, dark on back of neck, as head turned, a dark area with white band at top.

Eyes red.

Notched tail.

The bird then flew close to us and landed in a Mountain Elderberry (*Sambucus pubens*). It fed and moved about leisurely, showing no sign of alarm. Visible in flight was its rounded tail and a flash of white in the belly. We saw a broad area of a different shade on the terminal end of the tail, but this was not particularly noticeable. The feathers had a soft sheen, and the bird was plump and healthy looking. There was no band visible on its yellowish legs.

The "red eye" is in reality a red ring around the eye. A notched tail, evident when the bird was first seen facing us, disappeared when it flew. This notch is the only discrepancy from the descriptions I later read in the field guides, although the Western edition of the Audubon guide has a photograph of perched Band-tailed Pigeons showing a distinctive notch in the tail.

Although this is a Western species, there are several previous records of Band-tailed Pigeons in the eastern United States:

Alabama, October 1971, *Am. Birds* 26(1):76.

Louisiana, five records, *Am. Birds* 27(3):628.

Tennessee, Nashville, April 1974, *Migrant* 45:49-51.

Kentucky, November 1973, *Kentucky Warbler* 50:18-19.

[NOTE: The above article was prepared from various letters received from Maxilla Evans. The original correspondence is on file at the North Carolina State Museum. Because this species has not been previously reported from the state, the Band-tailed Pigeon should be placed on the Provisional I list for North Carolina birds (see Chat 44(3):59-61).—DSL]

[NOTE: The March 1980 Newsletter of the Columbia, S.C., Audubon Society reports the sighting of a Band-tailed Pigeon with a flock of Rock Doves in the Boykin-Rembert area north of Sumter, S.C. Kay Sisson (pers. comm.) says that the bird was found on 30 January 1980 by three hunters, who checked the identity in a field guide. Bennie Marshall of Route 1, Rembert, S.C., telephoned Mrs. Sisson about the bird and noted all the differences from the Rock Dove, leaving no question in her mind that he knew what he was talking about. The other two observers were Baynard Boykin and Alen Wooten.—EFP]

Nectar Robbing by Orchard Orioles

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Nectar is an important component of the diet of several species of orioles (Fisk and Steen, Condor 78:269-271, 1976). In the tropics, wintering Orchard Orioles (*Icterus spurius*) and Northern Orioles (*I. galbula*) have been observed visiting flowering trees for nectar and may even be pollinators for some tree species (Leck, Auk 91:162-163, 1974; Cruden and Herman-Parker, Auk 94:594-596, 1977). Here in North America, Northern Orioles have been found to feed upon the nectar of flowering Trumpet Creepers (*Campsis radicans*) (Bent, U.S. Natl. Mus. Bull. 211, 1958). However, little is known of oriole nectar feeding habits on the breeding ground in the temperate region. The purpose of this note is to describe the nectar feeding behavior of Orchard Orioles in North Carolina.

On the morning of 7 July 1980, while observing a patch of flowering Trumpet Creepers within an Orchard Oriole territory on the Dorothea Dix Farm, Raleigh, N.C., I observed a flock of four orioles (one adult, three juveniles) feeding upon the blossoms. A feeding oriole perched on the vine or the attached end of the flower and used its bill to pierce a hole in the top part of the floral tube (corolla) near the nectaries. Once inside the long corolla, the bird opened its bill (gaped) and proceeded to lap up nectar with the tongue. Periodically, a feeding bird lifted its head to permit the liquid to flow down the throat. After feeding upon one flower, the bird moved on to the next blooming flower. The flock members concentrated all of their feeding effort upon the blooming Trumpet Creeper flowers and ignored the Trumpet Creeper buds as well as the abundant flowers of Japanese Honeysuckle (*Lonicera japonica*). The flock fed within the Trumpet Creeper tangle for approximately 7 minutes before departing.

On the morning of 8 July 1980, I examined the corollas of Trumpet Creeper flowers growing within and outside the Orchard Oriole territory. I inspected 169 blooming Trumpet Creeper flowers in four different patches all within 1 km, but outside the oriole territory. No evidence of damage to the flowers was found outside the oriole territory. However, within the Orchard Oriole territory 78.3% of the blooming Trumpet Creeper flowers (N=23) contained slits in the corollas while only 15.8% of the flower buds (N=19) contained longitudinal slits. Thus Orchard Orioles showed a

statistically significant ($G=14.77$, $p < .005$) preference for mature flowers, which would be expected to have the highest nectar content.

I have used the term "nectar robbing" because the orioles by-passed the anthers and stigma by piercing and splitting the corolla near the nectaries and thus obtained nectar from the Trumpet Creeper flowers without serving as a pollinator. Although Ruby-throated Hummingbirds (*Archilochus colubris*) frequently visited the Trumpet Creeper flowers and probably served as pollinators, they were never observed feeding upon the flowers split open by the Orchard Orioles. By removing nectar from the flowers, orioles may discourage visits by such pollinators. However, the extent of Orchard Oriole nectar robbing of Trumpet Creeper flowers appears to be restricted to those vines within or very near oriole territories. By the end of the oriole breeding season when widespread movement occurs, most of the Trumpet Creeper flowers have finished blooming.

Second Winter Record of Indigo Bunting in South Carolina

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9 October 1979

On 15 December 1978 during efforts to capture Dark-eyed Juncos (*Junco hyemalis*) in the vicinity of Clemson, Pickens County, S.C., we netted an immature Indigo Bunting (*Passerina cyanea*). The bird's skull was completely ossified, and the wing and tail measured 69 and 50 mm respectively. The rectrices were very worn, suggesting that the bird was a first-year individual. The relatively large extent of blue shading in the feathers further suggested that it might be a male, but sex was not positively determined. The same individual (USFWS Band 1520-79659) was caught again on 16 December during the Clemson Christmas Bird Count at the same site among married-student housing units in the western part of the Clemson University campus near the old Seneca River bed.

This is the second winter record of the Indigo Bunting in South Carolina; the first was reported from Edisto Beach, Colleton County, in the winter of 1954-1955, when a molting male stayed at a feeder for a week (Chamberlain 1955). The usual winter range of *P. cyanea* extends north from Central America to Florida and the northern Gulf Coast (Taber and Johnston in Bent 1968). Most winter records of the species north of Florida have been coastal (e.g. Tipton 1976, North Carolina; Imhof 1976, Alabama), although many inland reports exist, particularly in the Mississippi Valley (Smith 1958, North Carolina; Mumford and Keller 1975, Indiana; Bohlen 1978, Illinois; Stupka 1963, Muffly and Owen 1977, and Bierly 1980, Tennessee). We surmise that this individual was enabled to stay in the upper piedmont by the extraordinarily mild autumn weather in northwestern South Carolina in 1978. It is interesting that an Indigo Bunting was caught in Indiana also during December (D. Whitehead, pers. comm.).

This manuscript has benefitted from review and discussion with M. L. Bierly.

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Dark-eyed (Carolina) Junco Nest on Sassafras Mountain in South Carolina

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The Carolina Junco (*Junco hyemalis carolinensis*) has long been thought to breed in South Carolina on the basis of the 1932 observations of Sherman (Sprunt and Chamberlain 1970), who noted a pair of birds at 970 m on Sassafras Mountain, Pickens County, but did not find a nest. Sprunt (1968) and the A. O. U. (1957) include Sassafras Mountain within the southern Appalachian breeding range of this subspecies. Throughout much of its range the bird is a common breeder, especially above 910 m (Stupka 1963, Tate and Smith 1974, Simpson 1976). We cannot find a record of a nest of *J. h. carolinensis* from South Carolina, however.

On 19 May 1979, during a field trip led by Gauthreaux for the Carolina Bird Club, Floyd observed adult juncos carrying food and found a nest containing three young. The adults were typical *J. h. carolinensis*, judged on the basis of their rather neutral gray color, their pale blue-gray bills, and the location. A number of participants in the field trip observed the nest and the adult birds. On that day the young had sprouted pinfeathers, but sheaths had not yet begun to split.

Hamel revisited the site on 24 and 26 May 1979. On 24 May he photographed the nest (Fig. 1) and observed the parents as they fed the young. On the latter date he measured vegetation at the site and collected the empty nest. The nest and field notes have been deposited in the Vertebrate Collections of the Clemson University Department of Zoology.

The nest, placed on the ground in a small hollow spot at the base of several *Kalmia* seedlings, was 1 m up the northeast-facing bank of a 3.5-m roadcut, approximately 2 m from the edge of the paved road to the Sassafras Mountain firetower. Two *Rubus* plants, one live and the other dead, were within 1 dm of the nest. The opening of the nest was approximately level although the bank exceeds 45° slope. *In situ*, the outside dimensions of the nest were 10 x 13 cm; inside dimensions measured 7.5 x 7.5 cm; depth was 5 cm. The nest was constructed largely of rootlets and grasses and



Fig. 1. Nestling Dark-eyed (Carolina) Juncos on Sassafras Mountain, S.C., 24 May 1979.

lined with short, coarse hairs. The outer rim was covered with moss, *Hypnum imponens* (C. Douglass and L.E. Anderson, pers. comm.). The location of the nest, approximately 33 m from the point where the road splits to circle the firetower, lies on the boundary between Pickens County, S.C., and Transylvania County, N.C. (Byrd 1972).

On 24 May the nestling juncos were completely covered with feathers, and by 26 May they had left the nest. The plumage was similar to that described in Sprunt (1968).

The adult birds were tame, conducting their activities while observers stood in plain view within 4 m. During the hour of observation on 24 May the lighter-colored female fed the nestlings three times, bringing 2-cm green caterpillars and removing a fecal sac on each visit. She twice chased a Chipmunk (*Tamias striatus*) that was drinking runoff rainwater 10 m from the nest. The male, identified by darker plumage and the fact that he sang 3 m from the nest while carrying food, delivered an unidentified arthropod prey item once. He sang two other times that day and five times during 105 minutes of observation on 26 May. On the latter day one of the adults was seen 5 m from the nest carrying two caterpillars similar in appearance to those fed by the female on 24 May. On all days that the nest was visited, the adults were observed foraging or carrying food for the young on both the South Carolina and North Carolina sides of the territory.

Habitat at the site, elevation ca. 1060 m, is mixed Shortleaf Pine (*Pinus echinata*)-hardwood forest. Standing trees within 12 m of the nest were all <22 cm d.b.h. and <14 m tall, as follows: Red Maple (*Acer rubrum*) 4, *Prunus* sp. (probably *P. serotina*) 2, Sourwood (*Oxydendrum arboreum*) 2, *Rhododendron maximum* 2, Hemlock (*Tsuga carolinensis*) 1, and Shortleaf Pine 1. Several larger Shortleaf Pine and Black Oak (*Quercus velutina*) trees, 22 to 50 cm d.b.h., had been cut down within

the past 2 or 3 years, presumably to increase visibility from the firetower. The tallest tree in the vicinity was a 20-m Hemlock, 40 cm d.b.h., 21 m from the nest. Basal area was 16 m²/ha. Canopy cover by trees was 30%. Cover provided by the *Rhododendron*, *Kalmia latifolia*, and Red Maple midstory was 70%. Shrub stems <3 cm numbered 36,300/ha; those 3 to 8 cm numbered 5640/ha. Groundcover was approximately 40%, *Vaccinium* sp. and *Rubus* sp. predominating.

Birds heard or seen within 120 m of the nest site are as follows: Ruffed Grouse, Pileated Woodpecker Great Crested Flycatcher, Solitary Vireo, Black-and-white Warbler, Ovenbird, Hooded Warbler, American Redstart, Rose-breasted Grosbeak, and Rufous-sided Towhee.

This manuscript has benefitted from the review and comments of M. Tannenbaum, V. Nolan Jr., and E.D. Ketterson. We thank C. Douglass and L.E. Anderson for identifying the moss, and H.E. LeGrand Jr. for sharing notes on birds observed by him on Sassafras Mountain on 21 May 1979.

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Distraction Display of Chipping Sparrow

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While picking blackberries on the afternoon of 29 June 1980, I heard repeated loud "protest" notes of an adult Chipping Sparrow (*Spizella passerina*). The bird was 10 to 15 feet behind me, vocalizing from an extensive *Rubus* thicket in my yard at Bayleaf, Wake County, N.C. When I turned toward it, the bird flew to the ground, and while continuing its loud notes hopped and fluttered away from me with frequent pauses. One wing was lowered but not dragging. As I continued my activities, the bird returned to its original position and continued to chirp. When I again turned toward the bird, the entire process was repeated. After I progressed another 15 feet a single, recently fledged Chipping Sparrow flew out of the blackberry thicket I was working and went across a gravel drive in a downward glide. It landed near what I assume was its alarmed parent and disappeared into another *Rubus* thicket.

Eloise Potter kindly checked the manuscript text of the forthcoming *Birds of the Carolinas* and found that the only reference to warblers and sparrows performing

broken-wing acts were for Black-and-white and Swainson's Warblers. Specific reference to sparrows exhibiting distraction displays are few, although Pettingill (1970) stated, "Injury-feining shows up in a great number of species representing many families.... The performance differs in detail from species to species depending to some extent on the habitat. In general, species nesting on the ground most fully perform injury-feigning, but species nesting in other situations, such as trees and marshes, at least use some of the movements and adapt them accordingly." Stull (1968) provided the only reference to Chipping Sparrows performing distraction displays. He reported two occasions in which he observed incubating birds tumble from nests 6 feet above the ground and flutter along the ground away from his approach. Most accounts, for altricial species at least, are for distractions away from nest and eggs. Pierson (1978) provided a unique example of a displaying male Canada Warbler, a bird that was later observed carrying food. Pierson assumed that this bird was going to nest to feed its young. The significance of the Chipping Sparrow behavior reported here is twofold: It is but the second time a distraction display has been reported for the species, normally one that nests in trees, and it is also an example of an adult decoying a potential predator away from a *fledged* bird.

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Red-tailed Hawk Snatches Bird In Flight

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On the morning of 30 October 1978, I heard the scream of a Red-tailed Hawk (*Buteo jamaicensis*) and looked up to see a pair of them circling overhead. One hawk was considerably larger than the other and had a bit of green plant material attached to one foot. It had apparently become tangled in weeds while trying to catch a rabbit or rodent. The two hawks stayed fairly close together, circling the area just above tree-top height. They had their heads down, scouring the area for prey. After a few minutes, the larger hawk flew off and the smaller one remained. The wind had picked up considerably by this time, and the hawk hung almost motionless in the air. As I continued to watch, it suddenly banked to its right, dropped a few feet and plucked a small bird out of the air. (The prey probably was a Starling as there were no other birds bucking the winds but a small flock of them.) The hawk snatched the bird with one foot, adjusted to hold it with both feet, transferred the bird to its beak, bit it on the neck (as best I could tell), and moved it back into its talons. He then dropped lower and flew off over the nearby woods and out of sight. All of this activity occurred in less than 2 minutes while I was watching with binoculars.

Red-tailed Hawks do occasionally eat small birds, as discovered by numerous studies of stomach contents, and G. Ronald Austing (*World of the Red-tailed Hawk*, Lippincott, 1965, p. 15) states, "On rare occasions a red-tail may attempt a falcon-like swoop upon aerial prey, which sometimes ends in success." Nevertheless, there are few documented records of *Buteos* catching aerial prey although this is certainly well known in falcons and some kites, and I was unable to find any detailed description of this feeding behavior for Red-tailed Hawks.

BRIEFS FOR THE FILES

HARRY E. LeGRAND JR.

(All dates 1980)

COMMON LOON: Good inland counts were 20 seen at Lake Cammack, near Burlington, N.C., on 13 April by Allen Bryan, and 22 seen at Salem Lake, near Winston-Salem, N.C., on 27 April by Harry and Ramona Snively.

RED-THROATED LOON: One seen in winter plumage, and described in detail, was very rare on Lake Cammack on 13 April, as noted by Allen Bryan.

HORNED GREBE: A late individual was seen by John Fussell on 28 May at Beaufort, N.C.

CORY'S SHEARWATER: A rare onshore sighting was made by Larry Crawford of two birds migrating over the surf at Atlantic Beach, N.C., on 18 May.

SOOTY SHEARWATER: A total of 13 northbound migrants were counted by John Fussell et al. in the Atlantic Beach-Cape Lookout area of North Carolina between 17 and 23 May.

MANX SHEARWATER: Dave Lee and Richard Rowlett observed an individual off Oregon Inlet, N.C., on 22 May.

BLACK-CAPPED PETREL: This species continues to increase in North Carolina waters, and it is now occasionally common in spring and fall. This spring Dave Lee noted this gadfly petrel on nearly all of his six pelagic trips out of Oregon Inlet from mid-April to late May, and he tallied between 50 and 100 birds on three of these trips.

WHITE-TAILED TROPICBIRD: A good find, especially in spring, was an adult seen by Vernon Waters approximately 70 miles off Charleston, S.C., on 23 May.

DOUBLE-CRESTED CORMORANT: This species was reported inland on many occasions in North Carolina from late March to early May, with two late records of interest—one seen flying over the North Carolina State University campus in Raleigh on 21 May by Jim Mulholland, and four noted at Lake Cammack on 20 May by Allen Bryan.

ANHINGA: Two seen at King's Pond near Fayetteville, N.C., on 7 May by M.E. Whitfield and Tim Playforth were probably nonbreeders, but four soaring males noted near Walker's Mill Pond at Newport, N.C., on 22 April by John Fussell and Larry Crawford might have been breeding birds.

MAGNIFICENT FRIGATEBIRD: Steve Graves observed a female flying over Fort Macon, near Atlantic Beach, on 6 May; and Gilbert Grant saw an immature on 19 May in flight over nearby Radio Island.

LITTLE BLUE HERON: One seen by Bill and Margaret Wagner was notable at Jordan Reservoir in eastern Chatham County, N.C., on 8 April.

GREAT EGRET: From one to three were noted by Bob Lewis, Steve Graves, et al. at Jordan Reservoir during the period 31 March to 24 May.

SNOWY EGRET: Quite rare inland in spring were single individuals at Jordan Reservoir from 4 to 16 April (Bill and Margaret Wagner et al.) and at Lake Cammack on 20 May (Allen Bryan).

BLACK-CROWNED NIGHT-HERON: Although this species migrates regularly throughout the Carolinas, individuals are only infrequently seen inland because of their nocturnal nature. At least three birds were detected at Jordan Reservoir marshes from 4 to 11 May by Jim McConnell, Bob Lewis, et al.

- WHITE-FRONTED GOOSE:** Bob Lewis found one at Jordan Reservoir on 29 March, and other birders saw the goose through 31 March.
- SNOW GOOSE:** One was seen by Tom Howard at Lake Surf, near Vass, N.C., on 27 March and 3 May. This individual, free-flying and apparently wild, has been noted there for about a year.
- PINTAIL:** Two individuals were quite late at Bodie Island, N.C., on 21 May as reported by Bob Lewis.
- RING-NECKED DUCK:** A male in good health was unusual on Lake Cammack from 14 April to 20 May, as seen by Allen Bryan.
- GREATER SCAUP:** Bob Lewis detected six birds at Jordan Reservoir on 9 April.
- HARLEQUIN DUCK:** A good find was a female at the Cape Hatteras, N.C., light-house on 10 March, as reported by Ricky Davis, Bud Needham, and Jim Parnell.
- COMMON EIDER:** Ricky Davis et al. observed a female on the very late date of 8 May at the jetty at Wrightsville Beach, N.C.
- HOODED MERGANSER:** A very rare breeding record for South Carolina was established when Perry Nugent et al. saw a female with 15 ducklings on 13 April at Four Holes Swamp, a few miles east of Harleyville in northern Dorchester County.
- MISSISSIPPI KITE:** This species usually arrives in South Carolina in late April; thus, two seen at the U.S. Vegetable Lab near Charleston on 2 April by Perry Nugent were quite early.
- GOLDEN EAGLE:** Perry Nugent et al. observed an immature in I'On Swamp near Charleston on 23 March.
- BALD EAGLE:** Steve Graves noted an adult at Beaverdam Reservoir, north of Raleigh, N.C., on 25 April, and he saw a different adult the next day at Jordan Reservoir. An immature was seen at the latter location on 27 April by Allen Bryan.
- MARSH HAWK:** Suggestive of breeding was an adult male carrying food at Cedar Island, N.C., on 31 May, as reported by Dave Lee.
- PEREGRINE FALCON:** Rare in spring were single birds noted at Jordan Reservoir on 26 April (Steve Graves) and at Cape Lookout on 2 May (Skip Prange).
- MERLIN:** Bob Lewis saw a rare and late individual at Jordan Reservoir on 6 May.
- AMERICAN KESTREL:** A pair appearing to be on territory was reported by Perry Nugent from Old Fort Road in Francis Marion National Forest, S.C., on 4 May. This hawk is a very rare breeder in the coastal plain of the Carolinas.
- KING RAIL:** One heard at a marsh at Jordan Reservoir on 30 May by Bob Lewis was a probable breeder.
- BLACK RAIL:** John Fussell heard 14 calling at Cedar Island on the night of 9-10 May. More nocturnal listening for Black Rails in Carolina marshes, particularly brackish ones, is desperately needed to elucidate the breeding range of this species.
- PURPLE GALLINULE:** One seen by Larry Crawford flying along the beach at Atlantic Beach on 13 May was quite surprising.
- SEMIPALMATED PLOVER:** A total of 12 at Lake Cammack on 18 April, as noted by Allen Bryan, were noteworthy, as the species is very uncommon inland before early May.
- AMERICAN GOLDEN PLOVER:** Nine were found by Harry LeGrand in a flooded field near Pendleton, S.C., on 22 March.
- BLACK-BELLIED PLOVER:** This species, like the preceding one, is very rare inland

- in spring; thus, notable were singles at Lake Cammack on 17-18 May (Allen Bryan), near Pendleton on 18 May (Sid Gauthreaux, Harry LeGrand), and at Jordan Reservoir on 24 May (Jim and Elizabeth Pullman).
- GREATER YELLOWLEGS:** On 9 April, Bob Lewis counted 270 at Jordan Reservoir, perhaps a record inland count for the Carolinas.
- LESSER YELLOWLEGS:** Another possible inland record was the tally of 320 birds at Jordan Reservoir, along with 130 Greater Yellowlegs, on 16 April, as reported by Bob Lewis and Allen Bryan.
- PECTORAL SANDPIPER:** Bob Lewis had a good spring total of 70 at Jordan Reservoir on 9 April, and Ricky Davis noted a late individual at Pea Island on 31 May.
- WHITE-RUMPED SANDPIPER:** Allen Bryan's peak count at Lake Cammack was seven on 16 May, and the peak at Jordan Reservoir was four on 9 May (Bob Lewis).
- BAIRD'S SANDPIPER:** One seen by Perry Nugent at Mount Pleasant, S.C., on 27 April was extremely rare for the spring season. Field marks noted were the size similar to that of nearby White-rumped Sandpipers, lack of a white wing stripe, and scaly buff on the breast and the back.
- DUNLIN:** Noteworthy inland was one near Fayetteville, N.C., on 12 April (Kevin Mason, P.J. Crutchfield), single birds at Lake Cammack on 4 May and 14-15 May (Allen Bryan), one at Jordan Reservoir on 12 April and six on 8 May (Bob Lewis), and two near Pendleton on 18 May (Sid Gauthreaux, Harry LeGrand).
- LONG-BILLED DOWITCHER:** This species is rare or overlooked along the coast in the spring; thus, five seen and heard at Topsail Beach, N.C., on 19-20 April by Gail Whitehurst were of interest.
- STILT SANDPIPER:** A good find was an individual in breeding plumage seen at Lake Cammack on 13 May by Allen Bryan, and another was late at Pea Island, N.C., on 31 May (Ricky Davis).
- WESTERN SANDPIPER:** Rare inland in spring were two or three near Fayetteville on 26 April (Kevin Mason, P.J. Crutchfield), four at Jordan Reservoir on 6 May (Bob Lewis), and two at Lake Cammack on 18 May (Allen Bryan). All were seen in the company of Semipalmated Sandpipers.
- MARBLED GODWIT:** John Fussell and Bob Lewis observed one near Cape Lookout on 18 May, a late date for the species along the coast.
- HUDSONIAN GODWIT:** The first spring record for North Carolina was established when Ricky Davis, Jim Parnell, and Bud Needham saw two birds at a pond on a dredge island behind Bodie Island on 29 May. One individual was in breeding plumage, the other in winter plumage.
- RUFF:** A very rare sighting was made by John Fussell at Brant Island near Fort Macon State Park on 29 April. The bird, a female or immature, was seen and photographed by Jim Parnell et al. and was last noted on 5 May.
- WILSON'S PHALAROPE:** Rare inland was an individual seen and photographed by Evelyn Dabbs on 19-20 April near Mayesville, S.C.
- NORTHERN PHALAROPE:** Most surprising were a male and two females seen on a farm pond near Pendleton on 18 May by Harry LeGrand and Sid Gauthreaux. On 20 May an individual was observed by Bob Lewis on the lighthouse pond at Bodie Island.
- POMARINE JAEGER:** Good counts from shore were 11 jaegers, some and perhaps all Pomarines, seen by John Fussell at Atlantic Beach on 14 April, and eight noted there on 16 May by Fussell and Bob Lewis.

PARASITIC JAEGER: One was seen chasing terns in Barden's Inlet, near Cape Lookout, on 24 April by Skip Prange, and 18 were seen in coastal Carteret County between 16 and 18 May by John Fussell et al.

LONG-TAILED JAEGER: Rare sightings of single individuals were made by Bob Lewis at Atlantic Beach on 17 May and by Dave Lee on a pelagic trip off Oregon Inlet on 29 May.

SOUTH POLAR SKUA: This species is apparently regular in small numbers off the North Carolina coast in late May. Single birds were reported by Dave Lee off Oregon Inlet on 22 May and 29 May.

HERRING GULL: Allen Bryan noted a late bird on 15 May at Lake Cammack.

LAUGHING GULL: Ten in breeding plumage were seen with a mixed flock of Ring-billed and Bonaparte's Gulls on the rugby field at Clemson, S.C., on 14 April by Harry LeGrand. Allen Bryan observed singles at Lake Cammack on 14 April and 18 May.

ROSEATE TERN: An individual in full breeding plumage was seen at rest at Cape Hatteras point, N.C., on 20 May by Bob Lewis.

CASPIAN TERN: Three seen at Lake Cammack by Allen Bryan on 14 April were somewhat early for an inland locality.

BLACK TERN: Rare inland in spring was one in breeding plumage at Lake Cammack, as noted by Allen Bryan on 8 May.

BLACK-BILLED CUCKOO: Single reports from Raleigh and Clemson, plus three from Chapel Hill, spanned the period from 24 April to 10 May.

SHORT-EARED OWL: One was rare and late at Jordan Reservoir on 26 April; the owl was studied carefully in flight by Steve Graves, Bill Wagner, and Margaret Wagner.

RED-COCKADED WOODPECKER: Barbara Roth observed one on 15 March at the recently discovered site near Jordan Reservoir, probably the same bird that was reported during the winter.

EASTERN KINGBIRD: An individual was somewhat early at Atlantic, N.C., on 31 March, as seen by John Fussell.

GRAY KINGBIRD: Jim Mulholland had a notable discovery of a bird on a telephone wire at Fort Fisher, New Hanover County, N.C., on 23 May.

WESTERN KINGBIRD: One seen by Dennis Forsythe and Greg Cornwell was "out of season" at the north end of Folly Beach, S.C., on 14 June. The species is seldom seen in the Carolinas outside of the period from September to December.

YELLOW-BELLIED FLYCATCHER: An excellent Carolina count was the four birds seen and heard giving the whistle call note at Middleton Gardens near Charleston on 3 May by Perry Nugent.

CLIFF SWALLOW: Allen Bryan observed two swallows gathering mud and carrying it to a bridge at Lake Cammack on 21 May.

FISH CROW: Bob Lewis reported that one to two individuals were present on the University of North Carolina campus at Chapel Hill for much of April and May. The species is rare in that city and has not yet been detected breeding.

BROWN CREEPER: One seen near Fayetteville by Henry Rankin et al. on 4 May was approximately 2 weeks late.

BEWICK'S WREN: An excellent find was that of two wrens seen well and heard scolding in a duet at a thicket near Jordan Reservoir on 10 May by Barbara Roth.

GRAY-CHEEKED THRUSH: One seen by Ricky Davis near Wilmington on 10 May was rare in spring for the coast. Also in the area on the same date were three Swainson's Thrushes and four Veeries.

VEERY: Gail Whitehurst heard an individual singing at Raleigh on 13 April, at least a week earlier than the species generally occurs in the piedmont.

CEDAR WAXWING: One seen at Atlantic, N.C., by John Fussell was late on 24 May.

WARBLING VIREO: Very rare for South Carolina was an individual seen and heard by Perry Nugent, and heard only by several other birders, at the Francis Beidler Forest near Harleyville on 13 April. Another seen singing on 18 May at Williamston, N.C., by Tom Haggerty was unusually late for a migrant.

SWAINSON'S WARBLER: Rare for the piedmont was an individual seen and heard at Duke Forest near Chapel Hill from 29 April to 6 May by Jim McConnell, Steve Graves, et al. This bird might have been on territory, but definitely on territory were three noted by John Fussell on 24 May near Atlantic in extreme eastern Carteret County. Tom Haggerty saw a silent bird at the Kuykendall group camp near Brevard, N.C., on 10 May.

WORM-EATING WARBLER: One reported by Bob Lewis in Croatan National Forest in western Carteret County on 15 May may have been a summer resident.

BLUE-WINGED WARBLER: Notable near the coast was a warbler seen by Ricky Davis near Wilmington on 24 April.

BREWSTER'S WARBLER: An individual of this hybrid was seen and heard (singing the Blue-winged Warbler song) by Kevin Hints at Winston-Salem on 28 and 30 April and 1 May.

NASHVILLE WARBLER: Very rare for the coastal plain in spring was one seen by P.J. Crutchfield near Fayetteville on 30 April.

CAPE MAY WARBLER: One was rare near Wilmington on 4 May, as noted by Ricky Davis. Also in the same vicinity were four Swainson's Thrushes, a Veery, ten Northern Orioles, two Scarlet Tanagers, and five Rose-breasted Grosbeaks, an excellent assortment of migrants in spring for the coast.

CERULEAN WARBLER: One seen by Ricky Davis on 24 April was very rare at Wilmington, and another was observed singing by Barbara Roth near Jordan Reservoir on 27 April.

BLACKBURNIAN WARBLER: Bob Lewis saw an individual in song at Pea Island on 21 May.

CHESTNUT-SIDED WARBLER: A singing male was noted by Bob Lewis on 20 May at Buxton, N.C. Both this and the previous two species are seldom seen on the coast in spring.

BAY-BREASTED WARBLER: A first spring record for the North Carolina Sandhills was an individual seen by Tom Howard on 3 May at Lake Surf in extreme eastern Moore County.

CONNECTICUT WARBLER: Harry LeGrand and Sid Gauthreaux observed a singing bird on 18 May at Clemson, where the species is rare but regular in spring.

AMERICAN REDSTART: An adult male was seen along the Santee River near Alvin, S.C., on 2 June by Dennis Forsythe.

BREWER'S BLACKBIRD: A male was seen near Pendleton on 22 March by Harry LeGrand.

PAINTED BUNTING: A probable instance of overshooting of the breeding range was an adult male at Southern Shores, N.C., (between Duck and Kitty Hawk) on 26 April, as reported by Gloria Rolls.

DICKCISSEL: One seen by Jay Carter was a good find near Hoffman, N.C., on 27 April.

PURPLE FINCH: One at Raleigh on 27 May was approximately a month late in

departing the Carolinas, as noted by Gail Whitehurst.

HOUSE FINCH: Five males and two females were seen by Betty McIlwain at a feeder in Brevard on 13 March.

RED CROSSBILL: With the exception of two reports from the spruce-fir zone of North Carolina, there were no reports of this species in the Carolinas this spring.

GRASSHOPPER SPARROW: One was quite late and unusual at Harkers Island, N.C., as noted by Skip Prange on 7 May.

LARK SPARROW: Very rare inland were single birds at Aberdeen, N.C., on 3 April (Tom Howard) and near Six Mile, Pickens County, S.C., on 16-17 April (Dan Pettigrew).

DARK-EYED JUNCO: Quite late in departing were individuals seen by Skip Prange at Cape Lookout on 2 May and by Gail Whitehurst at Raleigh on 17 May.

LINCOLN'S SPARROW: This species seldom sings in migration; thus, one in song was very notable at Clemson on 18 April, as seen by Sid Gauthreaux, Carl Helms, and Harry LeGrand.

CORRECTION: In the pronunciation for the Portuguese word for hummingbird (Chat 44:64), the mark over the *a* in the middle syllable should have been a dot instead of a straight line.—EFP

BOOK REVIEWS

OTHER EDENS

The Sketchbook of an Artist Naturalist

John Henry Dick. 1980. Devin-Adair Company, 143 Sound Beach Avenue, Old Greenwich, Conn. 06870. Illus. with 150 line drawings by the author. 275 p. \$19.95.

At a Carolina Bird Club meeting held at Charleston in 1976, I happened to be present when the illustrator of *The Warblers of America* viewed a warbler painting by a young artist. He turned to Sidney Gauthreaux and said, "You have captured the essence of what a warbler is." In this and other ways I have come to know John Henry Dick as a kind, considerate, and generous man as well as an artist devoted to the study and conservation of wildlife. Can you imagine how I felt when the first chapter of *Other Edens* detailed a trophy-hunting safari to East Africa? Trusting the author's judgment, I plowed through it and soon realized there was far more about the biology and beauty of Africa than about the gore of the hunt.

Confessing that the first safari had been too competitive, Dick and his friend Billy Coleman returned to East Africa in 1959, determined to make the hunt an individual experience. During this and subsequent trips to Africa much time was spent studying and photographing wildlife, notably the flamingos at Lake Nakuru. The third chapter describes a tiger hunt in India in 1962. Although the author finally bagged a female that had been killing cattle in broad daylight, the experience was far from satisfying. He concluded: "The fading, slightly torn tiger skin rug in my living room is a constant reminder of how long it sometimes takes to grow up."

Thus John Henry Dick's metamorphosis was complete when he set out for his first trip to Galapagos Islands with a group of people collecting animals for the Phila-

delphia Zoo. They succeeded in obtaining all the animals on their list, but at the last moment released the pair of extremely rare Flightless Cormorants, which they felt would be more of a status symbol for the zoo than a meaningful attraction for visitors. By the end of this chapter—and entirely without preaching to the reader—Dick has made his case for hunting and conservation. The taking of a reasonable number of animals by hunters does not harm healthy populations. The animals have a sporting chance to escape, and the lost individuals are quickly replaced by normal reproduction. Entire animal populations are endangered by pollution, habitat destruction, and commercial exploitation, which do not give them a sporting chance and which may greatly reduce or even halt reproduction. Island populations are especially vulnerable because they are usually very tame and are restricted to a small geographic area. The intentional and unintentional introduction of goats, pigs, and rats is tragically destructive to plants and animals on islands. In the Galapagos nonviolent, well-intentioned, nature-loving visitors have trampled the sesuvium ground cover and made pets of the once shy golden dragon iguanas. On a diet of sandwiches and other handouts from tourists, the iguanas apparently were no longer breeding in the early 1970s. Because wild places can literally be loved to death, fragile habitats must be protected even from those who come to study and admire them.

In additional chapters the artist-author sketches in words and drawings the excitement and beauty of the Falkland Islands, South Georgia Island, Antarctica, Alaska, Greenland, New Guinea, the American tropics, and the 400-square-mile King Ranch in southern Texas. Bird students probably will enjoy most of all the chapter on birding in India, which deals with the author's preparations for illustrating Ben King's *Guide to the Birds of India*. Each chapter is as different as the places visited, but John Henry is always an enthusiastic, congenial, and well-informed guide. Along the way he introduces his friends, including famous people such as George and Joy Adamson in Kenya and fellow artists Robert Verity Clem and Roger Tory Peterson as well as a remarkable assortment of not-so-famous hosts and traveling companions.

Other Edens is a good travel book—but also far more than that. Although by no means a formal autobiography, it tells us a great deal about John Henry Dick, the man and the artist. It is the memoir of a sensitive, creative person who truly appreciates God's beautiful world and enjoys sharing the good things of life with his friends. He counts each reader among those friends.—EFP

BIRD FINDING IN TENNESSEE

Michael Lee Bierly. 1980. Published by and available from the author, 3825 Bedford Avenue, Nashville, Tenn. 37215. 255 p. Illus. Index. Paperback, \$8 ppd.

This is one of the best books on bird finding that I have ever seen, and any bird watcher who is going to live in Tennessee or visit the state even briefly should obtain a copy. The introduction describes the physical features of Tennessee; tells where various types of state, county, and regional maps can be obtained; mentions Tennessee Ornithological Society and laws pertaining to birds; and offers useful tips on such matters as selection of binoculars and telescopes, bird guides, and recordings of bird songs. The body of the book discusses 112 top birding spots, giving directions for finding them (usually with detailed maps), listing of birds likely to be seen during various seasons, and adding tips for making the most of your visit. At the back of the book are several important features. First and foremost is a list of all 342 species the author knows to have been recorded in Tennessee. Brief remarks give the distribution and seasonal occurrence of each species in the state. Finally, there are lists of people willing to give assistance to other birders and of local chapters of TOS. Having had little experience birding in Tennessee, I cannot vouch for the accuracy of every map, but the directions are adequate for the few places with which I am familiar (even though the state line was omitted from part of the Roan Mountain map).—EFP

THE BRITISH ORNITHOLOGISTS' GUIDE TO BIRD LIFE

Jim Flegg, consultant editor. 1980. Blandford Press, Ltd., Poole, Dorset, England. Distributed in U.S. by Sterling Publishing Co., Inc., Two Park Avenue, New York, N.Y. 10016. Illus. with 128 color plates. Indexed. 324 p. \$27.50.

If you are assembling bird books in preparation for a trip to Great Britain, do not allow yourself to be misled by the title and jacket blurb for this one, which purports to be "a luxurious reference book which not only provides the aids to identification found in the pocket guides but also gives all the extra details and information necessary for the birdwatcher to understand bird life and habitats." The binding and color reproduction are very nice, indeed luxurious compared to the average pocket field guide. Unfortunately, part of the copy for the title page, all of the copyright page, and two of the four pages of introductory material were accidentally omitted in the original printing and had to be inserted as a loose four-page folder. In four pages the author tries to cover the pleasures of bird study, equipment and fieldcraft, bird finding, and bird distribution and biology. Almost nothing is said about habitats beyond the fact that "each area has its specialities." Most pocket field guides have more "how to" information than this.

The 128 workman-like illustrations by an unnamed group of Scandinavian artists are printed consecutively at the front of the book. Numbers correspond to the appropriate species in the descriptive notes at the back of the book. Only 300 species are illustrated and described, and several of these (e.g. Hazel Hen, Ural Owl, and Middle Spotted Woodpecker) are not found in Britain and Ireland, an area where more than 460 avian species have been recorded. This would not be unforgivable if the accounts truly bridged the gap between the pocket field guides and the multi-volume reference works. Unfortunately the descriptive notes devote half of the space, on the average, to field identification and calls. Breeding, food, and status are generally given a superficial treatment, though some accounts of breeding habits are well done. In the sections on calls, food, and status, the author lapses into a disconcerting mixture of complete and incomplete sentences. There are other lapses, too. The dark bill of the Pochard is said to distinguish it from the Red-necked Pochard drake, which has a red bill. I assume Red-crested Pochard was intended. Although the several drawings of bird topography illustrate most of the terms used in the descriptive notes, some important terms (e.g. mantle) are not included. There is no glossary. The index to English names is a bit of a surprise: Common Gull is listed under the Cs, Herring Gull under the Hs, and so forth.

On the whole this book strikes me as something hastily thrown together in order to market a set of color pictures. The novice British bird watcher may find the book appealing and helpful, but he will soon outgrow its limited scope. Visitors to the British Isles are advised to stick to the standard field guides for Britain and Europe until they can find something more comprehensive than Flegg's well-intentioned but seriously flawed book.—EFP

CBC ROUNDTABLE (Continued from Page 103)

This article reminds me of the several times I have seen Downy Woodpeckers apparently feeding on the standing dead stalks of Cane (*Arundinaria gigantea*) in winter. Sometimes the birds are hardly more than a foot or two above the ground. I wonder what insects they find as they tap noisily on the hollow-sounding woody stems.—EFP

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